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The Journal of TEACHER EDUCATION

The 1957 Teacher Supply and Demand Report

Other Features

- Part II: Leadership Role of State Teacher Education-Certification Officers
- The Bay City (Michigan) Experiment. . . . . As Viewed by the Staff of the City Schools

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Editorial Comments

The 1957 Teacher Supply and Demand Report, published in this issue, provides additional grounds for growing optimism about the teacher supply situation. It may be recalled that the National Commission on Teacher Education and Professional Standards in its 1955 report to the profession, *The Crucial Years* (planographed, 29 p.), sounded a hopeful note on this matter. *The Crucial Years,* written in November 1955, called attention to the fact that the downward spiral of annual teacher production had been checked and a slight upturn recorded. To our best knowledge this was the first optimistic prediction—indeed the only one to date—to be released by an agency close to the situation. That report was received with incredulity in some quarters, and openly hooted at in others. But the optimism, we believed then, was warranted by a series of coalescing and favorable factors; and subsequent events have tended to confirm the accuracy of the Commission's appraisal of the developing situation.

Some also sought to ridicule or to distort the Commission's statement, by asserting that the Commission had said that "the teacher shortage is over." Of course, no such statement was contained in that report, or has been subsequently authorized by the Commission. In substance, *The Crucial Years* said:

> It is reasonable to assume that the progress report contained herein indicates that we are slowly winning the battle to correct our dangerous shortage of qualified teachers. That battle can be won completely, in the crucial decade ahead, or completely lost. The situation can be stabilized and brought under reasonable control by the early 1960's, and a satisfactory balance obtained by 1965.
>
> . . . an awareness of the dangers of hard and fast predictions should be indicated. No one, however expert, can accurately forecast the future of teacher supply and demand. There are too many variables in the situation, too many new and unexpected factors which may arise at any moment to influence favorably or adversely both the supply and the demand, for the most competent forecaster to be categorical in his projections. But there are enough favorable factors currently evident to justify the assertion that a reasonable balance (to supply minimum needs) can be achieved by 1962, and that a real balance (to supply all pressing needs) can be achieved by 1965.

The assumed conditions on which this prediction was based have continued to obtain and have contributed to the steadily improving situation. In fact, there is some evidence of a stepped-up tempo of improvement. The Commission predicted an estimated need of 120,000 to 150,000 new teachers annually for the decade 1955-1965, assuming that neither the replacement of emergency teachers presently employed nor the relief of the serious overloading of classrooms would transpire overnight, but rather would be spread over the ten-year period. The "ifs" of this prediction were that (1) the flow into teaching of college graduates and former teachers continues on a basis comparable to that of recent years; (2) the number of employed emergency teachers stabilizes at present levels; (3) college enrollments continue to increase as they have since 1954; (4) the holding power of teaching stabilizes or increases as a result of improvement of

(Continued on p. 14)

The Bay City Experiment . . . As Viewed by the Staff of the City Schools

Paul W. Briggs
Superintendent of Schools
Bay City, Michigan

Introduction

This report has been prepared at the request of and for the Bay City Board of Education. It comes during the fifth year of a five-year experiment which was approved by the Board of Education in 1951. This is a staff report which has been written and approved by those who have been closely associated with the project. The principals, cooperating teachers, and aides have all helped prepare it. It is a compilation of beliefs, understandings, and reactions to the Bay City Teacher Aide Experiment. This is the only report made to date by members of the staff of the Bay City Public Schools.

Much attention has been attracted to the teacher aide experiment, and many opinions and reports have been made. The staff of the Bay City Public Schools regrets that some of these reports have been of a semi-sensational nature, and have claimed that the Bay City Teacher Aide Program was a panacea for all ills and problems in education. It further regrets that some members of the educational profession have seen fit to condemn the experiment without proper observation or study of the same. The staff of the Bay City Public Schools feels that neither the over-ambitious claims nor the severe criticisms represent a true picture of the real Bay City Teacher Experiment.—P. W. B.

THE problem on which the study focused its attention was the current shortage of qualified teachers. This was a national problem which promised to become so severe that many classrooms could not be staffed by trained teachers, and that in many areas students would be placed on a part-time schedule. The passage of time has proved that the shortage of qualified teachers has become the number one crisis in American education.

To meet this crisis, it was proposed that a pilot program of experimental nature be conducted in Bay City which would determine the advisability of using lay-teacher aides to assist competent teachers to effectively teach larger classes. The Bay City Experiment provided a small number of good teachers with an aide, and increased the size of classes from the Bay City average of 32 to from 45 to 50 students. It was further proposed that the aide should be the teacher's assistant and should participate in as many activities as possible.

The results and evaluations of this experiment were to be made available to the profession; thus, it would allow other communities to profit from the experience and lessons learned from the experiment.

The June 1956 issue of the JOURNAL OF TEACHER EDUCATION *was devoted to a description and appraisal of the Bay City, Michigan, Experiment for the Better Utilization of Teacher Competencies, popularly titled the "Teacher Aide Experiment." Before and since the appearance of that issue of the* JOURNAL, *numerous articles have been published in popular and professional journals discussing the merits of the Experiment. In November, 1956, Superintendent Briggs of the Bay City schools, at the request of his Board of Education, prepared this report on behalf of the staff of the schools.*

It seemed to the editors of the JOURNAL *that, in fairness, the viewpoints of the people who are actively involved in the Experiment should be given the widest possible circulation. Almost everybody else has had his say; it seems not only a matter of justice but of wisdom to hear from those who are most involved.*—EDITOR.

Organization of the Study

The teacher aide study was organized in cooperation with Central Michigan College, financed by a grant from The Fund for the Advancement of Education, and was for a five-year period. It was divided into two parts. The first called for a careful time-study of teacher activities to determine exactly what elementary teachers do in the performance of their regular daily duties. The second was devoted to a four-year period of experimentation with teacher aides. During these four years, teacher aides were assigned to eight experimental classrooms, intentionally over-loaded.

Time Study. A careful time study was made of teachers in the elementary schools of Bay City to identify the activities within the classroom and the amount of time spent on each.

Selection of Aides. The aides were selected from laymen in the community who had indicated an interest in the program and were carefully screened to make certain that they were individuals of high moral character, and that they were intelligent, cooperative, and friendly to children. No individuals were selected as teacher aides who had received teacher education. All, however, were high school graduates. Several of the aides were mothers, others were recent high school graduates, and some had a limited college education. One was a liberal arts college graduate. They came from all levels of economic background.

Orientation of Aides. A careful preschool orientation program was established which attempted to acquaint the aides with the purpose of the experiment and briefly introduce them to their new assignment. This phase of the program was under the direction of Miss Harriett Van Antwerp, Director of Elementary Education, and the staff of Central Michigan College. It took the form of a workshop which was conducted in the general offices of the Bay City Board of Education and on the campus of Central Michigan College.

In-Service Education of Aides. Probably the most important phase of the entire experiment centered around the in-service education of the aides. The in-service training program dealt with the fundamentals of education, heavily stressing the mechanics of classroom organization as well as principles of child growth and development. During the first year of their tenure, the aides met weekly; later, the in-service meetings were held every other week. These meetings were under the direction of Miss Van Antwerp and were usually for a period of two and one-half hours.

Through this program, the aides received information about education and developed a philosophy about their job which probably contributes more than any other one factor to their success. The problems of the aides were brought to the in-service meetings. These included such things as questions regarding policies and practices of the school system; propriety of relationship between aide and teacher, and aide and parents; behavior problems of class members; and specific problems related to teaching methods. Each aide received a total of six hours credit from Central Michigan College for his year's activity.

Certification of Aides. By special arrangement through the State Department of Public Instruction, the State Board of Education awarded special certificates to the aides on a year-to-year basis during the experiment.

Placement of Aides. The aides were placed in eight experimental classrooms with good teachers who possessed a reputation for cooperation, flexibility, and a willingness to experiment. During the four years of the experiment, the aides have been used at each level from kindergarten through the eighth grade. In many cases, if it were discovered that an aide had a special competency in a given field, such as music or art, she was assigned to a teacher who desired to use those abilities. In no case was an aide assigned to an inexperienced teacher. Most of the aides were assigned to buildings where the classrooms were exceptionally large or where auxillary space was available. This was especially true in the new Dolsen School where the self-contained classrooms possess approximately 1,200 square feet of floor space.

Duties of the Aides. The concept of the duties of the aides has changed considerably since the beginning of the study. It has been found that because of the quality of the aides, the very intensified program of orientation, and in-service education, the aides were able to perform a large number of duties. Many of these duties could be considered almost entirely professional in nature. At all times, however, they were under the supervision of the teacher. Some of the more frequently performed duties were:

Clerical. Check workbooks and papers, record grades, make collections and keep a record of the same, help with blackboard work, get supplies from the stock room, operate mimeograph equipment, mend books, take attendance, arrange bulletin boards.

Activities. Help with the playground at recess time, assist with field trips, help

What Superintendent Briggs says of the Bay City Experiment . . .

1. The staff of the Bay City Public Schools regrets that some of these reports [discussing the plan] have been of a semi-sensational nature, and have claimed that the . . . program was a panacea for all ills and problems in education. They further regret that some members of the profession have seen fit to condemn the Experiment without proper observation or study.

2. Our staff has developed a strong conviction that, while the teacher aide program can be successful in the crisis situation, there exist certain dangers in its promiscuous application and careless administration.

3. The staff of the Bay City Schools still feels that it would prefer to have smaller classes with regular teachers than to have larger classes and teacher aides.

4. It [the staff] believes that the teacher aide program has much to offer in successfully using laymen to make the services of a good teacher available to a larger number of students than would ordinarily be possible.

5. Probably the most important phase of the experiment centered around the in-service education of the aides.

6. Many of these duties [of the aides] could be considered almost entirely professional in nature.

with the distribution of milk, arrange visual aids (maps, drawings, models, pictures), render first aid.

Housekeeping. Adjust shades, lights, and ventilation, arrange room, help children decorate, and clean room.

Instructional. Correct papers, give additional help to the slow learner, take over the class when the teacher leaves the room, assist with art work and music, read to the group, obtain reference material, give additional instruction to students who have been absent.

Salaries of Aides. A survey was made of salaries paid locally to women in clerical and semi-skilled positions. It was determined that the average was approximately $45 per week. This also amounted to approximately 50 per cent of the average wage paid beginning teachers in the Bay City School System in 1951. Therefore, the salary for beginning aides was arbitrarily established at $45 per week. This salary later was advanced percentage-wise to keep pace with that of the teachers.

Cost of the Program. Since the average class was increased in size by approximately 50 per cent, and the salary of the aide was approximately 50 per cent of that of the regular teacher, the actual classroom cost of education per child remained at about the same level. The salaries of the aides were paid entirely by the Bay City Public Schools. Monies received from The Fund for the Advancement of Education were used for administration and supervision.

Conclusions

When the Bay City Teacher Aide Experiment is viewed in light of the teacher shortage, it is generally agreed that it has been successful. It is our belief that the quality of education has been maintained in the experiment at a comparable level to the general program in the Bay City Public Schools. We have found that it is not only possible to maintain a good program of academic achievement, but also, in the less tangible area of child growth and development, we have been able to attain very satisfactory results. Good aides have an active interest in children, and under proper guidance can be very helpful in creating the kind of classroom atmosphere which encourages wholesome personality development. In many cases, the aide has been able to relieve the teacher of some of the routine activities so that she may devote more time to becoming better acquainted with the children.

Our staff has developed a strong conviction that, while the teacher aide program *can* be successful in the crisis situation, there exist certain dangers in its promiscuous application and careless administration. They recommend that the following practices be followed in the administration of the program:

1. Carefully select quality individuals as aides.
2. Inaugurate a strong program of professional supervision.
3. Place the aide in a compatible situation with a good cooperative teacher.
4. Provide an adequate in-service training program.
5. Use the program in a room large enough to accomodate the larger class and provide sufficient additional facilities to allow increased class activities.
6. Inform the public and staff regarding the program so that it will be properly understood and received.

The staff of the Bay City Public Schools still feels that it would prefer to have smaller classes with regular teachers aides. It recognizes, however, that the teacher shortage is so severe that this may not always be possible. It believes that the program has much to offer in successfully using laymen to make the services of a good teacher available to a larger number of students than would ordinarily be possible.

Goodbye, Little Red

William J. Ellena[1]
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Towson, Maryland

The Little Red Schoolhouse makes a pretty picture in rhyme or prose . . . but it is also clear that a vast number of children attending these schools are being cheated of their right to be taught by a fully-qualified teacher. Surveying the facts regarding the supply of qualified and competent teachers reveals that, as a group, teachers in rural schools and teachers in small school districts have long been relatively poorly qualified.

Recent issues of the TEACHER SUPPLY AND DEMAND REPORT, conducted by the National Commission on Teacher Education and Professional Standards and the NEA Research Division, show rather conclusively that in some predominantly rural states where one-room schools and/or small school districts are still common, there are large numbers of teachers who have a negligible amount of college preparation. This relationship is of special significance and importance, and may well require more than a Herculean effort to solve.

The stage then is set. This article attempts to view the results of school district reorganization—for all practical purposes a phenomenon of the past decade. The primary concern is the development of a school district structure through which each child can receive the best educational opportunity that society can afford—W. J. E.

FEW educational responsibilities have greater far-reaching importance to the people of a state than the establishment of a sound local district structure for administering the schools. Keeping that structure adapted to changing conditions in our society by reorganization of small ineffective districts into larger administrative units more capable of providing needed educational services has for many years been a persistent problem in American education. It is also one in which much progress has been made, especially during the past nine years when the total number of local school districts in the nation was reduced by more than 40 per cent.

Results of school district reorganization may be viewed in a number of ways. Frequently it is measured in terms of the number of local districts eliminated by incorporating their territory into larger units. Results may also be measured by increases in the number of new districts having certain characteristics of size or other features commonly associated with adequate local administrative units. Such methods have obvious practical values in looking at the results of reorganization and assessing its progress. Their validity rests on the conviction that larger districts are more capable of providing the scope and quality of services required in a modern program of

[1]W. J. Ellena was associate editor of *The Journal of Teacher Education* from October 1955 until August, 1956.

education than can be provided effectively and economically by districts of very small size.

Reduction of School Districts

The number of school districts in the United States steadily increased up to sometime between 1920 and 1930. Since 1932, the number of school districts has undergone a continuous reduction. In some states, as a result of leadership and legislation, the trend has been spasmodically downward. Within the past few years the reduction in the number of school districts has occurred at such an accelerated rate that it may well be expected that the next decade will witness a further reduction of 50 per cent or more of the number of districts existing in 1950.

As a result of reorganization the number of school districts in the United States has undergone a rather remarkable reduction: from 127,530 in 1932; to 100,946 in 1948; to 67,045 in 1953; to 59,270 in 1955. This is a reduction of more than 50 per cent since 1932. The rate of reduction during the three-year period 1947 to 1950 was 21.5 per cent, and during the next three years almost as great, 18.6 per cent. The number of school districts is really, in a sense, less than it seems. In 1955, only 51,596 school districts actually operated schools. There were 7,674 (one out of every eight) legally constituted districts that did not operate a school. These districts either did not have any pupils or sent their pupils to school in another district, usually on some contractual or tuition basis. It is interesting to note that 67 per cent of these non-operating districts are located in eight states: Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, South Dakota, and Wisconsin.

These non-operating districts are remnants of a somewhat obsolete system of school organization. The reasons for the continuance of these districts vary. They are sometimes retained as tax islands to enable some persons and/or corporations to keep down or avoid the payment of local school taxes. In other instances they represent the last attempt of local people to hold on to the local school to which a loyalty out of a long past is attached. But gradually, such districts are on the way out. Their number was 17,131 in 1948; 11,891 in 1953; and 7,674 in 1955. Some states, notably Illinois, Kansas, and Wisconsin, have recently enacted legislation for abolishing non-operating districts within a specified time period. In the official report of the White House Conference on Education the delegates took a firm position in recommending abolishment of all non-operating districts.

In some states the extent of reorganization has been considerable. In the State of Illinois, for example, the number of school districts was reduced from nearly 12,000 in 1947 to about 2,300 at the present time. In Missouri, the number of school districts has been reduced by 55 per cent in seven years. Minnesota, under a statute with excellent provisions for planning by local citizens and officials of the State Department of Education, but with extremely vulnerable provisions for enabling a majority of popular votes from becoming effective, has made steady advancement, having experienced a 44 per cent reduction in the number of school districts since 1948. In the nation as a whole, 1,999 school district reorganization proposals were voted upon during the school year 1954-55; only 238 were defeated. Other bright spots, as well as many cumbersome state statutes and procedures, could be cited.

This study reveals that eight states—Iowa, Kansas, Michigan, Minesota, Missouri, Nebraska, South Dakota, and Wisconsin—have 32,884 or 55 per cent of the school districts in the nation. These same eight states have 5,216 or 67 per cent of all the school districts that no longer

operate schools. They have 22,882 or 64 per cent of the school districts that operate only elementary schools, that is, school districts which are not designed for and not attempting to provide even the 12 years of schooling which are commonly accepted as desirable. They also have 21,566 or 55 per cent of the nation's 39,061 one-teacher schools. While the nation as a whole experienced a 41 per cent reduction in the number of school districts from 1948 to 1955, the average reduction in these eight states for a comparable period has been 29.1 per cent.

Prevalence of Small School Districts

In spite of the extent to which reorganization has taken place, most school districts continue to be relatively small. Two years ago 37,781 or 64 per cent of all school districts employed nine or fewer teachers. The trend to abolish small districts, however, is reflected in the fact that in 1947 almost twice as many districts had employed nine or fewer teachers. Relatively large districts continue to be the exception. In 1955, only 11 per cent of all operating school districts employed 40 or more teachers. If it could be assumed that the ratio of pupils to teachers was 30 to one, probably a high estimate, only one out of each nine school districts in the United States had as many as 40 teachers and 1200 pupils in 1955. We must conclude that, even today, most schools are small schools.

The number of one-teacher schools is also of persistent concern. In 1948, there were 74,832 one-teacher schools in operation, though there were almost twice that many in 1930. By July 1955, there were only 39,061 one-teacher schools. One-teacher schools have disappeared most rapidly in the least rural states and in the states with larger school districts. Within the next decade this number will probably be reduced to approximately 25,000 to 30,000.

County unit school districts have long been advocated as the most effective unit of school administration by some of the recognized professional people in school administration. Other professional experts have condemned the county unit for neglecting the community aspects of school organization. The facts seem to indicate that in numerous instances both the professional and lay opponents of the county unit school district have fought a gradually losing battle.

There were, in 1955, a total of 1,138 county unit school districts in 32 states. (There are only 3,070 counties in the United States.) Since 1948, the number of county unit school districts had increased by 179. Of the 1,138 county unit districts, 666 are complete county units; 472 are partial county units; 1,020 operate schools for grades 1 through 12; 106 operate high schools only; and 12 operate elementary grades only.

Trends in Reorganization

The process of reorganizing school districts requires a changing legal structure which results in the establishment of districts appropriate for meeting the needs of all children and communities. As we look at our experience in reorganizing districts, certain trends can be identified. There is a trend toward the development of larger school districts. There is a tendency for the boundaries of these districts to conform to the natural boundaries of a sociological community. Another trend seems to be the combining of suburban areas with the urban areas while at the same time decentralizing the large urban centers. There also may be danger in the possibility that there may be a trend from permissive to mandatory legislation.

Another important but until recently neglected aspect of school district reorganization is the intermediate unit, so called because it functions between the basic school districts and the state de-

partment of education. The need for the intermediate unit arises from the fundamental fact that a great majority of school districts, especially of the community type, are not large enough to efficiently and economically afford all the services needed. Data already presented make quite clear the inadequacy of at least 90 per cent of the existing school districts. They are small and most of them will continue to be small even with the fullest predictable reorganization. Under these conditions it becomes necessary to develop plans for strengthening and expanding intermediate service units.

Whether school district reorganization in each state is to effectively achieve its full potential depends upon such things as basic reorganization procedure, the recognition and desire of people for better schools, and especially the kind of educational leadership provided in our local communities, at the county or intermediate level, and in our state departments of education.

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Education's Neglected Child

Olive L. Reese
English Teacher
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Indianapolis, Indiana

AN AREA consistently slighted by departments of education is that of student teaching. This observation is an outgrowth of my personal experience as a cooperating teacher and discussions with other cooperating teachers. Several of its aspects remain undefined and unclarified. In particular there seems to be no established criteria from which to operate. Perhaps it is education's "neglected child."

Student teaching is defined as guided teaching wherein the student teacher assumes increasing responsibility for work in a classroom over a period of consecutive weeks under the direction of a cooperating supervising teacher and a college supervisor. It is a pre-service program offered by teacher education institutions in an approved university laboratory school, a public school, or a combination of the two. In the program it is hoped the student teacher will learn to carry out sound theory in actual practice and evaluate its workability.

A cooperating teacher is the regular teacher of the group of pupils taught by the student teacher. This cooperating teacher is often required by state licensing commissions to have a master's degree, a valid license in the area taught, and five successful years of teaching.

The third member of this educative project is the college supervisor. He is the member of the college faculty who assumes responsibility for coordinating the student teacher's activities.

Many students agree that practice teaching is one of the most valuable courses the prospective teacher receives. Yet there are several areas in the student teaching situation which clearly should be a matter of concern. What are the competences of a good cooperating teacher? What is the legal status of student teaching? Should the cooperating teacher receive a fee?

The Cooperating Teacher

Acting as a cooperating teacher is a voluntary act on the part of the qualified classroom teacher. More qualified teachers would volunteer to do it if they knew how to approach and handle the situation with the techniques and skills that are necessary and helpful. Student teaching is a special field requiring its own particular understandings. Having a master's degree, the valid license, and the five years experience is well and good; but over and above these standards many qualifications of the cooperating teacher need to be more clearly identified.

What are the qualities of a competent cooperating teacher? In the area of personal relations with the student the cooperating teacher should have trust, warm friendliness, concern for the personal feelings of others. He should be able to instill confidence in others and a feeling of being equal. He should be able to accept the student's problems and shortcomings. In the area of communication he should be able to talk easily with the student, creating the feeling that questions can be asked. He should be able to admit he doesn't know every-

thing without "losing face." The cooperating teacher should be able to explain his own teaching practices to the student, but he should permit the student to do things differently. Criticism should be given constructively and objectively with the thought of helping the student grow.

Answers to important questions asked by cooperating teachers need to be spelled out. How much observation should I have the student do? How should I go about turning the class over to a student teacher? Just how much actual teaching is he supposed to do? Should he make lesson plans in writing? What specific experience and help does the college expect me to give him? How can I help him grow in his chosen field? How can I prepare my pupils and the community to accept the student teacher? With what things about the school should I familiarize him besides my classroom? How much can I expect him to know and be able to do? If I am to help grade his work, on just what basis do I make my evaluation?

The procedures, techniques, and methods which answer these questions have been carefully studied and formulated by personnel in the field, but teachers qualified to be cooperating teachers have not been reached by this pertinent material.

The school conference is one way to answer the problem of educating the cooperating teacher. Workshops at the individual schools, at professional meetings, or in summer school programs are still another way. Several colleges are trying to meet this need by including a course in this area in their graduate schools. Making the literature and materials on the subject available to the teacher is a splendid way to attack the problem, but the average teacher absorbed in a busy routine may not take time to read it unless a real need for it is recognized. Some colleges work on this theory and give each new cooperating teacher a good handbook or other literature to help handle the task professionally.

Legal Status and Remuneration

A second area about which there is concern among colleges and cooperating teachers is related to the lack of legal status of student teaching. After setting up minimum requirements of time spent under specific conditions and a statement that a teacher cannot be issued a valid certificate or license without it, student teaching remains a child of chance. No one directs many of its aspects. The legal position of the student teacher himself in hazy and indefinite. Just what is his legal status in the school in which he is doing student teaching? If he is left in the classroom as the only teacher, does he have the same legal standing that a regular teacher under contract has? How much authority does the student really have in pupil-teacher situations? Since consensus of opinion is that student teaching is an important phase of teacher preparation, should it not be given more definite legal stature?

A third area about which there is concern—and also controversy—is that of the remuneration of cooperating teachers. Student teachers usually pay a laboratory fee for their course in student teaching. When such teaching is done in the public schools, this fee sometimes goes directly to the cooperating teacher. In any case, it is a small fee considering the value received from conscientious cooperating teachers. The amount nevertheless varies considerably from college to college. Mrs. Black in Room 100 may have a student teacher for whom she receives $45.00 from institution "A"; Mrs. Brown in Room 101 may have a student teacher for whom she receives $60.00 from institution "B." Another practice used by

some institutions is that of paying a superintendent or building principal an extra fee in order to be sure he will permit or ask his qualified teachers to act as cooperating teachers. These conditions place teacher preparing institutions in a position where they bid against each other.

Benefits of the Program

In conclusion, there are definite benefits which come from the student teaching program. A correctly managed student is an asset to the cooperating teacher and to the school in which he trains. His help gives the cooperating teacher time to do many things she has been putting off. She will have time to help students who have special needs. She can get extra materials ready for classroom use. She will be able to improve discipline problems by giving the problem child a little extra attention, which is often all he needs with which to improve. Besides the gain of time for extras, a cooperating teacher gets new enthusiasm and impetus from working with and for a student teacher. She has someone with whom to share ideas, problems, knowledge, and experience. Student teaching often improves the cooperating teacher as well as the student teacher. Cooperating teachers usually agree that they probably do some of their best teaching while demonstrating for a student teacher. Student teaching also gives the cooperating teacher the satisfaction of having been of service to the profession.

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Editorial Comments (Continued from page 2)

the relative economic conditions of teachers; and (5) the movement to raise standards of selection, preparation, certification, in-service growth, and welfare of teachers continues unabated.

These conditions, for the most part, are being met. Assuming the annual consumption of 10,000 to 15,000 new teachers to replace emergency teachers and to make a start toward relieving the most seriously overloaded situations, the estimated annual demand of 120,000 to 150,000 seems not too conservative. The 1957 report shows a total production of new teachers of 116,791; and a total production of degree teachers of 107,452, which is an increase of 21,651 over the low point of 1954 and only 8,025 short of the peak year of 1950.

The proportion of each college graduating class prepared for teaching continues to increase. This proportion has risen from 21 per cent in 1948 to about 32 per cent in 1957. How do the prophets of doom—those who have been telling the American people that teacher education is so inferior that college students won't prepare for teaching—explain this one away?

And the steady flow in significant numbers of former teachers and college graduates of previous years continues. There are no national data on the subject, but we have some state studies which show that from one-third to one-half of those taking teaching positions each September come from these sources.

College enrollments since 1955 have surprised everybody, have out-stripped all predictions. The 1956-57 estimated total enrollment, 3,230,000, will include fully 40 per cent of the total college-age group. This high enrollment had not been, we believe, forseen by anybody, and most projections had not anticipated this level being reached before 1962. This is in the forefront of the optimistic factors for ending the teacher shortage. As we have said many times, the basic cause of the teacher shortage, as well as that of other professional fields, such as engineering and science, is that this college-age pool (a product of the low births of the 1930's) got out of kilter with the relatively huge pool (a product of the high births beginning in the middle 1940's) which created unprecedented demands for such personnel. Despite this obvious fact, the critics of education have seized upon the fact of the shortage to try to create the impression that there are some sinister causes, some appalling weaknesses in education as casual factors. The age group which is our supply pool for professional personnel is beginning now to inch upward, which is a harbinger of a more generous supply from here on. Especially will this be true if the percentage of the 18-21 year age group going to college remains at the present and unexpected high level.

The paramount factor in the teacher supply situation, however, is the continued progress in elevating standards for the profession—all along the line—in selection, preparation, certification, professional growth, professional working conditions, and welfare provisions, yes, even including the word which is anathema to some critics, salaries.

And just here are the gains most pronounced—and just here are the prophets of a distintegrating school system most egregiously in error. They have been telling teachers and the American people, mostly the latter, that the only way to escape the utter collapse of teaching standards is to adopt a series of gadgets and gimmicks by which the clientele of each qualified teacher can be greatly

increased. We have contended that the consistent elevation of standards until they reach acknowledged professional levels everywhere and at all teaching levels and in all teaching fields is the only sure means of making teaching so attractive as to assure an adequate supply. What are the facts? Since 1946, the number of states requiring completion of the bachelor's degree for the lowest regular certificate for beginning elementary teachers has risen from 15 to 36 (as of July 1, 1957). The results, by anybody's yardstick, are impressive. The annual production of degree elementary teachers has quadrupled, rising from an estimated 10,000 in 1946 to 13,827 in 1948 and to 42,796 in 1957. The proportion of employed elementary teachers with degrees has consistently advanced during this period. In 1949 only 49 per cent had completed degrees; in 1957 the percentage is almost 70. As has been pointed out, the proportion of college graduating classes which has chosen to prepare for teaching has gone up every year—save one—since 1948.

But the prophets of doom can always say, "Yes, but--." They can always shift to the quality argument, saying, yes, but the quality *is* not what it ought to be. Of course not, it probably never will be, and one can argue that point interminably. The critics also say that all this talk about raising standards refers to increasing the amount of professional education courses. We regret to have to disappoint these critics. The facts are, as revealed by reports of state certification directors (see W. E. Armstrong and T. M. Stinnett, *A Manual on Certification Requirements for School Personnel in the United States,* 1957 edition, to be published by the NEA about June 1) that requirements in professional education have not been increasing; in fact, since 1951 there have been noticeable instances of decreases. The average requirements among the states in 1957 are 18 semester hours for high school degree teachers and 24 semester hours for elementary degree teachers. Moreover, the number of teachers employed on emergency certificates has begun to decline. According to estimates of the U.S. Office of Education, the shortage of qualified teachers was reduced by 20,000 between the falls of 1955 and 1956, dropping from 140,000 to 120,000.

It is obvious that we are definitely gaining on the teacher supply-demand situation. Of course, this is not to say that the shortage is over, far from it. Our prediction has been and remains that by 1962 we can get into our population enough qualified teachers in terms of aggregate numbers to supply the two irreducible needs—to replace those who leave the profession each year and to staff the needed new positions. Whether these shall be gotten into the classrooms is another matter. Also, this over-all prediction is in terms of numbers and may or may not be accurate concerning needs at the several levels and in the respective teaching fields. There is little question that the most serious teacher shortage situation will continue to be at the elementary level. The 43,000 production of degree elementary teachers this year is scarcely half the need. The total production of high school teachers is beginning to approach the annual demand. If one examines the needs in the separate teaching fields, however, he finds relatively large deficiencies still existing. The big problem at the elementary school level is numbers. In the high schools it is a balanced distribution of production. Likewise, a continuing problem is the geographical distribution of teacher supply. Certain areas, such as California, Florida, and the Southwest,

as examples, because of abnormal immigration of population, cannot for years supply their demand from their own production, and must continue to draw heavily upon the national pool.

As hopeful as the signs are, the profession cannot slack for a moment efforts to interest capable young people in entering preparation for teaching. The text of the 1957 report places the responsibility exactly where it belongs—upon each school district to assume its share of the job of contributing to the national pool.

No, we have not said that the teacher shortage is over. We have said that we can solve the problem much earlier than most predictions have estimated, and that we are on the way toward that solution. And, we repeat, the key to such a solution is a vigorous continuation of the drive to raise standards for teaching to professional levels.

Bay City Report

We have no intention of belaboring the Bay City Experiment further. We are pleased to publish in this issue the report of Paul W. Briggs, Superintendent, and the staff of the Bay City Schools to the City Board of Education, which appeals to us as a fair, balanced, even-handed report. Perhaps we will be accorded the observation that this report says in substance precisely what we said in our editorial in the June 1956 issue of the *Journal of Teacher Education*:

(1) that the teacher aide plan is not a panacea and publicity implying such is regrettable;

(2) that the plan has great merit as an emergency measure, until we can get the needed classrooms and teachers; and

(3) teachers prefer the normal size load without an aide to large classes with an aide.

—*T. M. S.*

The Personnel of the Teaching Profession

The number of the male teachers is growing less and less each year. They are paid higher wages as carpenters and mechanics. They make more money farming or merchandising. Ten years ago a teacher could secure board in the county for $4 a month; today the same board costs $10 to $12.50 a month. The best female teachers are passing out of the counties that have a short term and small monthly salary to the county of longer school term and larger monthly salary. One county superintendent at the Association in Wrightsville said a large number of applicants for teachers in his county this year are 18-year-old girls, many of whom received only second grade certificates. When asked the cause he replied that as fast as his teachers reached the plane where they were considered good teachers, they went to other counties where the term is longer and the salary is better. In another county it was noted that fifty of the eighty teachers attending the institute were all new comers, having never taught a day.—NORTH CAROLINA JOURNAL OF EDUCATION, *September 1906. p. 12.*

The 1957 Teacher Supply and Demand Report

Research Division
National Education Association

AFTER five years of steady decline, the annual production of newly qualified candidates for elementary and high school teaching hit the low point in 1954, then both 1955 and 1956 showed increases. The 1957 figure will be up almost 10 per cent from the preceding year, according to the Tenth Annual National Supply and Demand Report.

What do these increases mean? What are their causes? Do they, or are future increases likely to offset the steady increase in the number of children to be taught? And will the problem be further complicated by the rapidly expanding demand for teachers at the college level? To what extent is optimism justified, as we try to foresee a reasonable balance between supply and demand? If and when total supply equals total demand, will the supply be *distributed* among the grade levels and teaching fields according to the demand? Answers to these pertinent questions will not come quickly, but we must continue the search in order to understand the complex nature of the problem.

Of immediate importance is the nature of the upturn. It must be noted that the *per cent of college graduates* to complete requirements for the teaching certificate has steadily increased since 1950, while the *total number* of college graduates has fluctuated violently. In 1950 the per cent of all college graduates who prepared for teaching was 26.6. In the following years these per cents have been: 27.8 in 1951; 29.9 in 1952, 30.0 in 1953; 29.3 in 1954; 30.4 in 1955; 31.4 in 1956. The year 1957 promises almost 32 per cent.

The 1957 Teacher Supply and Demand Report is the tenth annual study of teacher supply and demand in the United States which has been conducted under the sponsorship of the National Commission on Teacher Education and Professional Standards. This report was prepared by the NEA Research Division in cooperation with the Commission. The 1957 report, like each of the preceding ones, was under the immediate supervision of Ray C. Maul. Dr. Maul is Assistant Director of the Research Division.

The Commission expresses its appreciation to the Research Division and to Dr. Maul for their cooperation in the preparation of this important report.

The 1957 report is published exclusively in the JOURNAL OF TEACHER EDUCATION.—EDITOR.

These figures become meaningful, of course, only when they are related to the total number of bachelor's degree graduates to emerge from the colleges.[1] But they are the strongest kind of evidence that teaching has continuing appeal to the youth of today, and that the schools *can be staffed with competent teachers*. These figures are closely related to the efforts of administrators to improve general working conditions and to resist the further overcrowding of classrooms, to the efforts of districts and states to provide substantial salary increases, to the

[1]For convenience, the term "college" is used in this report to include all institutions of higher education in which students may earn the credits required for the standard teaching certificate.

efforts of colleges to vitalize their teacher education programs, and to the advancement of standards for admission to the teaching profession. Each year this report makes clearer that an increased supply of competent teachers coincides with more aggressive action in these areas, and that supply tends to lag where indifference and apathy prevail.

To get a full picture of the present teacher supply-demand situation it is necessary to answer the question, Why has the shortage of qualified teachers been a growing problem for the past decade? Obvious to educational leaders, but not generally understood by the public, are these stubborn facts:

1. The American public is steadily delegating to the public school systems larger responsibility for the education and welfare of each child.

2. The year-by-year increase in the number of children to be educated, with its consequent expansion in the need for facilities and personnel, has outstripped the growth in any other phase of occupational life.

3. With the increase in the need for competent teachers has come an unprecedented rise in the demand for college trained persons in many other occupations; the shortage of teachers is an inseparable part of a much larger general demand for trained manpower.

4. During the ten years, 1945 to 1955, the number of youth to reach adulthood decreased at the rate of about 100,000 per year. If a larger per cent of this diminishing group of 18-to-21-year-olds entered college—as has been the case the past four years—the total number available to enter the labor force of the nation was still further decreased.

5. During this ten-year period just past the American public has generally accepted an entirely new concept of military manpower needs of a continuing nature in peacetime.

6. The expanding employment opportunities for educated women have struck a severe blow to teacher supply; no longer does classroom teaching have first priority, as has been the case in earlier years. And no less than 87.2 per cent of all elementary and 53.7 per cent of all high school teachers are women.

7. In five of the ten years just past, the total number of new college graduates to compete for all types of positions decreased fully one-third—from 434,000 in 1950 to 287,000 in 1955.

8. We are living in an era of early marriages; many young women are assuming full-time homemaking as an occupation at an earlier age than in past years, and are thus withdrawn from the total supply of jobseekers.

9. The demand for teachers (in terms of the available supply) is *always a local condition.* Some school districts continue to suffer a critical shortage year after year, while other districts regularly enjoy a comfortable margin of supply. After the basic question of a competitive salary has been answered, each district must analyze the whole constellation of factors which make for the personal and professional satisfactions of the teacher. Some of the shortcomings can be remedied by the school administration; some by the school board; some by the business, professional, and civic organizations; and some are inherent in the facilities, location, and general makeup of the community. Some districts profit greatly by the availability of competent teachers who are the spouses of (a) university students, (b) military personnel, or (c) employees of a local industry. Other districts suffer because of (a) lack of cultural opportunities, (b) inadequate housing for teachers, (c) transportation difficulties, or (d) isolation. Whatever the advantage, the final value to the school system is due in no small measure to the alertness of the administration. Whatever the handicap, the educational welfare of children is dependent upon the resourcefulness within the locality in seeking compensating measures.

10. One major weapon in combatting the teacher shortage is often completely overlooked. It is the primary responsibility of every district to furnish its share of the raw material of which teachers are made. It is a well known fact that from some communities there is a regular flow of high school graduates of good caliber to the nearby colleges which produce teachers; from other communities this flow of new trainees is negligible. And in neither case, ordinarily, is this an accident. The enthusiasm of high school graduates for the teaching profession is a direct reflection of the professional pride of the local teaching corps, the prestige which the community accords its teachers, but most of all, the leadership which the school administration gives to an organized, systematic, continuous program of encouragement. A good rule of thumb is that for every new teacher the community expects to hire, the local high school graduating class should send at least two excellent prospects into a teacher education program. Thus, a major responsibility rests upon the administrative official to whom the community has entrusted the task of obtaining and retaining a corps of competent teachers. Just as the superintendent of a county or city hospital, in his capacity as guardian of the public health, is vitally concerned in the recruitment and training of enough competent nurses, just so does the public school superintendent fulfill his trusteeship of the educational welfare of the community through his leadership in the recruitment of trainees for teaching.

The foregoing items are facts which must be driven home to the citizens of every community. One quick recital is not enough. The citizens who supply the funds for the operation of the school must have a sympathetic understanding of the root causes of the continuing teacher shortage. The well meaning citizen is sensitive to many needs of the community; it is not enough to assume that he automatically views educational needs in their proper relationship.

Reasons for Encouragement

At no time has the outlook for public education held greater possibilities than at the present moment. Many favorable factors are at hand. Meaningful progress toward reducing the teacher shortage can be achieved if we can capitalize upon the opportunities. Consider these factors:

1. Nationwide, state, and local effort has been organized and coordinated to acquaint the public with the facts, and to create a greater awareness of individual, state, and federal responsibility. The impetus of the White House Conference on Education is a case in point. The way is open to a more intense and sustained drive for public understanding and support.

2. Interest in post-high school education, up to the capacity of every individual, is increasing. Now about one-third of all high school graduates continue with some kind of formal education. Soon as many as 40 per cent may do so; some of the more courageous prophets see this per cent rising to 50 as early as 1970. Expanding graduating classes should yield correspondingly larger groups of newly qualified teachers.

3. The impact of the low birth rates of the 1930's has passed the 18-to-21-year-olds; each year, for the next two decades at least, this segment of the total population will increase in size.

4. The concept of an adequately prepared teacher is being steadily strengthened. Within the past two years five more states have designated four years of college training as a minimum for the standard elementary school certificate.[2] This brings to 36 the total num-

[2]Michigan, Minnesota, Mississippi, New Mexico, and Oklahoma are the five reported in the 1957 edition of *A Manual on Certification Requirements for School Personnel in the United States*, soon to be published by the NEA.

ber of states in which this step has been taken. The significance of this advance can hardly be estimated; each such forward step has brought increased interest of superior students, and has extended the supply of highly qualified candidates.

5. The program of teacher education is being strengthened. The influence of the National Council for the Accreditation of Teacher Education is reaching a growing number of institutions of higher education—liberal arts colleges and universities as well as teachers colleges. These efforts to assure the quality of preservice preparation are gaining the respect and support of public school employing officials.

6. The college graduate who did not prepare for teaching at the undergraduate level, but who now wishes to enter classroom service, finds many college offerings suited to his particular needs. Liberal arts graduates and others are encouraged by the post-graduate courses, seminars, and workshops designed particularly for their convenience.

7. Some sharing by the federal government of the financial burden seems more likely than heretofore. Future revenues needed for operating expenses thus may be protected from prior commitment for retirement of bonds issued to finance building construction.

Factors Which Temper Optimism

While it is true that opportunities for progress are open and that the foregoing factors are encouraging, it would be tragic to assume that we will *make progress* toward the solution of the teacher shortage unless we more clearly define our goals and then redouble our efforts to achieve them. Since teacher supply is always a local problem, the needed emphasis upon goals will vary from one district to another, but nationwide conditions focus attention upon these overriding needs:

1. *Salary Increases.* High quality instruction and educational services call for teachers of good scholarship, well-rounded preparation, and desirable personality. The competition for such persons is at an all-time high, and promises to sharpen further in its intensity. During the general upturn of salaries, wages, and prices since the close of World War II, teachers' salaries have steadily fallen behind, when compared with the remuneration for services in other professional fields. It is not realistic to believe that the types of young people wanted in teaching will choose this profession unless they foresee the likelihood of a truly competitive salary structure.

2. *A Broader Base of Support.* As the major sources of tax revenue are preempted by the federal government the local school district has been the principal loser. Federal funds made available to the states on a matching basis have sharpened the competition for the tax dollar at the state level. If a state tax dollar is worth, say, two dollars in highway construction, the temptation is great to neglect the schools, where the state dollar is worth one dollar. The need to expand the physical plant is forcing many districts to mortgage future revenues to the point where teachers' salaries will be further endangered. Thus the action of the 85th Congress should not be passively watched—it must be actively encouraged to fulfill pledges made by both parties before the 1956 election.

3. *Reduction of Annual Loss.* The high annual mortality in teaching has not been charged with its enormous share in creating and extending the teacher shortage. Thousands of new teachers are required each year to replace those who, though well prepared, have successful records, and are capable of many more years of effective service, nevertheless leave the profession. Too many times the schools of the nation profit only briefly from a substantial investment in counseling, selecting, training, and inducting into service a person competent to carry out the highly complex task of teaching. Probably the finan-

cial loss in this existing routine is not duplicated elsewhere in the professional occupations. But it is the loss of competent personnel that is most to be deplored. Only a careful, patient study of *the reasons teachers leave classroom service* can point the way to a diminution of this annual loss. And here again the problem is chiefly a local one—a challenge to each school district. Surely the time is past for us to be profligate with our highly trained manpower.

4. *Recruitment of the Superior.* If we are to relieve the over-all manpower shortage we must seek out all of the nation's youth capable of profiting by college work and then *see that they go to college.* This does not mean an indiscriminate increase in college enrollments. It does mean greater concentration upon those high school graduates who have demonstrated their ability. It is generally known that of the top 25 per cent of all high school graduates only about one-half enter college. One great deterrent is lack of motivation; another is lack of financial ability. Surely public school teachers and administrators enjoy the ideal opportunity to encourage these superior students. Once in college, these students can then continue to weigh the opportunities and satisfactions to be had in teaching. But first they must be motivated to continue their schooling.

5. *Selection of Trainees.* When we emerged from the war in 1945 and took a serious look at our constructive peacetime activities, we discovered that the elementary and high schools of the nation were in a chaotic condition. In frantic haste we resorted to "emergency" measures to staff these schools. It has been all too easy, in many places, to continue in the belief that (a) we must admit any and all persons who are willing to enter preparation for teaching, and (b) we must license them for classroom service after no more than meager training. Without doubt, these practices have played a major role in perpetuating the teacher shortage. Many high quality young students have been discouraged because they discovered they could not gain fair recognition of their talents and general competence. To condone mediocrity—in initial entrance into training, throughout the pre-service program of college attendance, in admission to the profession, and in retention in service—is to forego the achievement of the highest goal in education. It is also to perpetuate the "in and out" of many persons with no sincere or enduring interest in the teaching profession. This single illustration points up the case: In one state no new elementary school teacher has been employed during the past four years without high qualifications, including a college degree. The number of new teachers employed in 1956 was equal to 10.4 per cent of the total corps. In another state (where the birth rate has been lower for many years) the number of new elementary school teachers employed in 1956 was equal to 19.2 per cent of the total corps, yet among these new teachers were only 14.0 per cent with college degrees and 34.7 per cent with *less than one year* of college preparation. The evidence is clear that selection and high standards of preparation can strike a crippling blow at the teacher shortage.

6. *Post-Graduate Recruitment.* While some 30 per cent of a total class of college graduates are prepared for teaching, it must be recognized that all of the other 70 per cent have one of the broad minimum requirements—a four-year college education. Many of this latter group, with brief intensive preparation, can become good teachers. Many of them do not discover their interest in teaching until after graduation. For a great many of them, altered personal conditions change their attitude toward teaching. Most numerous, perhaps, are the the housewives who find that their children no longer require full-day attention. But from all ranks of liberal arts

graduates of earlier years may come persons who, with encouragement and the needed preparation, can do much to relieve the teacher shortage.

7. *Distribution of New Supply.* The usefulness of a newly graduated group of candidates is limited by its distribution according to the needs of the various teaching fields. As will be shown in the following section of this report, an imbalance in the distribution of the 1957 Class will impair its effectiveness in reducing the teacher shortage. The lack of counseling, perhaps the lack of basic information, often permits an unwise choice in the selection of a specific field, even after the student has decided to prepare for teaching. Scarcely anywhere is there evidence that this vitally important matter receives the attention it merits if we are to make full use of our trained manpower.

8. *Accreditation of Colleges.* Historically, most institutions of higher education have considered the preparation of teachers as one of their rightful functions. But as public elementary and secondary education has called for more teachers, many of the colleges have gone their separate ways in the development of teacher education programs. Only recently has unified leadership come into being. The National Council for Accreditation of Teacher Education points the way, but still a majority of the twelve hundred institutions engaged in preparing teachers are outside its ranks. Without doubt many of these nonmember institutions have strong programs, but the evidence is equally clear that many others range down through mediocrity to inferiority. The task of encouraging all of these institutions to accept and apply the National Council's standards is the obligation of every professional worker in the whole field of education. The influence of the Council can go far toward preventing blind trial and error in improving the pre-service program.

The foregoing are only some of the numerous positive steps which must be taken if we are to capitalize upon the existing favorable circumstances. To review them, however, is to see more clearly the responsibility of each person interested in the over-all welfare of the American educational system. To assume passively that the teacher shortage is on the way to solution is the surest way to perpetuate it.

Part I—The Supply of Teachers

THE Class of 1957 will produce a total of 107,452 graduates prepared to enter classroom service next September. This will be an increase of 10.1 per cent over the 97,586 included in the Class of 1956.

Of this new group, 42,796 will have completed four years of college preparation for elementary school teaching—an increase of 4.89 per cent over the 40,801 such graduates of 1956. The number of new graduates prepared for high school teaching[1] will be 64,656—up 13.86 per cent from 1956.

Other Sources Cannot Be Measured

It must be emphasized here that the oncoming class of college graduates is not the only source of supply of adequately prepared teachers. It is designated "supply" in this report because this is the only group which is susceptible of measurement at this time. It does accurately indicate the number of qualified potential candidates who will be added to the existing reservoir. To gain a broad overview of supply, these factors must be recognized:

[1]It must be noted that within this group are those graduates prepared to teach a special field throughout the elementary and high school grades (e.g., art, foreign language, home economics, industrial arts, library service, music, physical and health education, science, speech, and social studies.)

1. Of the 97,586 members of the Class of 1956 who were qualified to seek teaching positions, only 70.7 per cent did so.[2]

2. Of the 87,409 qualified members of the Class of 1955, only 71.3 per cent actually entered teaching.

3. It is safe to estimate that during the past five years more than 100,000 newly qualified graduates have not taken teaching positions immediately following completion of the four-year college program. Some—few or many, but an unknown number—may have entered teaching after a lapse of one or more years. Some (also a number which cannot even speculatively be estimated) may decide between now and next September to become candidates on the basis of their already established eligibility. But all of them, except those deceased, are in the general population.

4. Some 70 per cent (or more) of each total graduating class during the past five years *did not* choose to qualify for the standard teaching certificate, thus indicating a lack of interest in teaching while attending college. Some (also not susceptible of measurement) probably have subsequently made the required preparation for standard certification.

5. Each year a large (but again unknown) number of fully qualified teachers quit teaching. At any time changed conditions can lead to their return to the classroom.

6. Many, perhaps a large number of qualified persons will be available only in the community in which they live. They will increase the "supply" only in a limited sense, because they will not ordinarily be living where the shortage is most acute.

From the foregoing, these four points stand out: (a) The general population contains some tens of thousands of college graduates who can fully meet the standard requirements for the teaching certificate without further effort on their part; (b) personal circumstances in every case have deterred each of these individuals from entering or continuing in teaching; (c) only a change in the personal situation *of the individual* is likely to reshape his occupational choice; (d) since the individual did not choose to enter or remain in teaching, although he is qualified to do so, *it is not likely* that teaching will now attract him unless the remuneration and general conditions now have a stronger pull than heretofore.

What, then, is the total "supply of teachers" now available to employing officials? The new oncoming group can be accurately counted, but nobody can say in March how many qualified candidates will come from the general population before next September. Much depends upon conditions which exist in a local community, because without doubt many persons will make themselves available only in close proximity to their homes. And finally, much depends upon the readiness or reluctance of local or state officials to admit "emergency" teachers to classroom service. All realistic measures of available supply break down when the requirements for admission to the profession are abandoned.

Maldistribution a Problem. Table 1 shows the oncoming group of new elementary school teachers in one undivided group, but the new potential high school teachers are divided into 20 sub-groups according to the various subject-matter fields in which they have concentrated. The distribution of the total of 64,656 (lines 8 to 27, column 4 of Table 1) will quickly be recognized as being out of balance with the distribution of all high school teachers in service. In social studies there will be 10,566 (16.3 per cent of the total), whereas in English there will be 6,685 (10.3 per cent of the total). In the combined sciences—general science, biology, chemistry, and physics—there will be 5,044 (7.8 per cent of the total), whereas in men's physical education there will be 6,911 (10.7 per cent).

(*Continued on p. 27*)

[2]Shown in detail in Part IV of this report.

TABLE 1.—TOTAL NUMBER OF COLLEGE AND UNIVERSITY STUDENTS COMPLETING STANDARD CERTIFICATE REQUIREMENTS, ACCORDING TO REGULATIONS OF EACH OF THE 48 STATES, ALASKA, DISTRICT OF COLUMBIA, HAWAII, AND PUERTO RICO, BY SEX, IN 1957, COMPARED TO THE NUMBER WHO MET SUCH REQUIREMENTS IN 1956

Line	Type of Preparation	1957			1956 Total	1956 to 1957	
		Men	Women	Total		Net Change	Per Cent Change
Number	1	2	3	4	5	6	7
1	Elementary School Teaching:						
2	120 semester hours...	5,834	36,962	42,796	40,801	+ 1,995	+ 4.89
3	90 semester hours...	40	636	676	806	− 130	−16.13
4	60 semester hours...	1,087	6,523	7,610	7,119	+ 491	+ 6.90
5	30 semester hours...	122	713	835	918	− 83	− 9.04
6	Elementary Total..	7,083	44,834	51,917	49,644	+ 2,273	+ 4.58
7	High School Teaching:						
8	Agriculture.....	1,710	6	1,716	1,549	+ 167	+10.78
9	Art.....	852	1,534	2,386	2,072	+ 314	+15.15
10	Commerce.....	2,543	3,575	6,118	5,494	+ 624	+11.36
11	English.....	2,092	4,593	6,685	5,945	+ 740	+12.45
12	Foreign Language....	540	985	1,525	1,424	+ 101	+ 7.09
13	Home Economics....	...	4,794	4,794	4,522	+ 272	+ 6.02
14	Industrial Arts.....	3,325	29	3,354	2,655	+ 699	+26.33
15	Journalism.....	38	58	96	89	+ 7	+ 7.87
16	Library Science.....	43	313	356	279	+ 77	+27.60
17	Mathematics.....	1,895	997	2,892	2,544	+ 348	+13.68
18	Music.....	2,591	2,686	5,277	4,798	+ 479	+ 9.98
19	Physical Education (Men).....	6,911	...	6,911	5,718	+ 1,193	+20.86
20	Physical Education (Women).....	...	2,872	2,872	2,629	+ 243	+ 9.24
21	General Science.....	1,706	578	2,284	1,889	+ 395	+20.91
22	Biology.....	1,283	580	1,863	1,706	+ 157	+ 9.20
23	Chemistry.....	503	170	673	521	+ 152	+29.17
24	Physics.....	191	33	224	204	+ 20	+ 9.80
25	Social Studies.....	7,461	3,105	10,566	9,125	+ 1,441	+15.79
26	Speech.....	648	1,034	1,682	1,505	+ 177	+11.76
27	Other.....	1,245	1,137	2,382	2,117	+ 265	+12.52
28	High-School Total..	35,577	29,079	64,656	56,785	+ 7,871	+13.86
29	GRAND TOTAL.....	42,660	73,913	116,573	106,429	+10,144	+ 9.53

To interpret Table 1, see EXPLANATORY COMMENTS on the opposite page.

Explanatory Comments on Table 1

1. Coverage. Table 1 includes reports from all institutions in which teachers are prepared in the 48 states, Alaska, District of Columbia, Hawaii, and Puerto Rico. No institution is missing, and thus the coverage is complete.

The figures in columns 2, 3, and 4 for the academic year not yet completed (1956-57) will, of course, be affected by deaths, dropouts, failures, and incomplete accounting. The figurer in column 5 are for the year just closed (1955-56) and are final; they may be considered to be accurate.

2. Classification. Each student preparing for high school teaching is classified in only one field—his area of major concentration—although he will also ordinarily meet the minimum teaching requirements in his minor field. In this report, however, each student is counted only once.

3. Science. Students who are completing preparation in the broad area of science are, in most states, listed under "General Science" (1,889 in 1956 and 2,284 in 1957). Doubtless many of these students will also have completed full majors in biology *or* chemistry *or* physics, but they are reported only in "General Science" to avoid duplication. Thus the oncoming group of new physics teachers, (line 24) for example, is not limited to the 224 reported under that head; without doubt many of the 2,284 new teachers reported under general science (line 21) are also fully prepared to teach physics. The same may be true in biology and chemistry. In addition, any student majoring in some other field (perhaps mathematics) may elect one of the sciences as a minor, and thus meet the minimum requirements for teaching it.

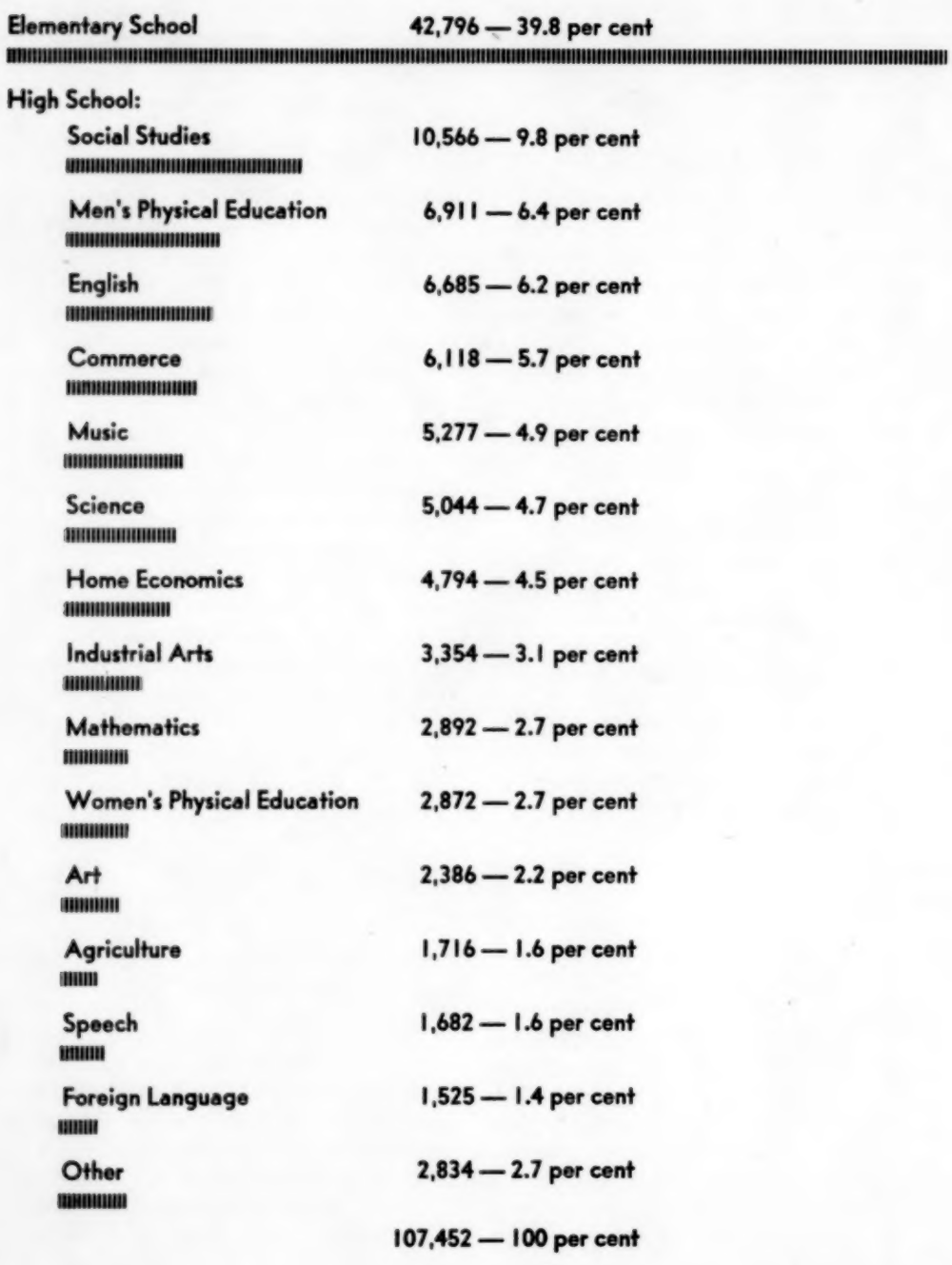
4. Special Fields. Students prepared for "special education" services, the junior high school core program, and possibly others are not specifically identified. Usually they are reported under "other" (line 27) in Table 1. Also, some students reported as being prepared for high school teaching are also prepared to teach their specialties, such as art, music, physical education, and foreign languages in the elementary grades.

5. Fifth-Year Requirement. In Hawaii five years of preparation are required for either the elementary or high school standard certificate. In New York, although five years are required in the academic fields, (e. g., English, languages, mathematics, science, and social studies) current practice is to report the four-year graduates of all fields in Table 1.

6. Less-Than-Degree Certificates. The minimum of four years of preservice preparation is steadily gaining acceptance. Table 1 shows the number of students who, in some states, are granted standard elementary school certificates at the 90-, 60-, or 30- semester-hour levels, but these figures are not included in any other tables in this report.

7. State Reports. In many of the state departments a more detailed analysis of teacher supply than is shown in Table 1 is prepared by the state official who collaborates in this annual national investigation. Such state reports contribute to a fuller understanding of local conditions.

Chart 1.—Distribution, by Major Teaching Field, of All College and University Students Completing Certificate Requirements in 1957 (From Column 4 of Table 1)



(Continued from p. 23)

New potential teachers of commerce far outnumber those prepared to teach home economics; new prospects in mathematics are scarcely more than one-half as numerous as those in music. The men with major preparation in industrial arts do not add up to one-half the number in men's physical education. Only a few college students major in library science at the undergraduate level. In some states no opportunity exists for a student to major in speech; in others those choosing this field are many.

These figures point to the need for more effective counseling, particularly during the freshman and sophomore years in college, where many final choices are made. But the greatest imbalance of all is between the *total elementary* and the *total high school* groups. Table 1 shows that three of every five college graduates prepared for teaching consider themselves bound for the high school, whereas almost two of every three teachers in the public schools of the nation are in service in the elementary grades. In earlier years many college graduates with strong concentration in one high school teaching field but with scarcely any background in numerous other important fields were simply declared to be eligible for teaching in the elementary grades. While such practice tends to upgrade the general academic status of the whole elementary school corps, it is the consequence of much misdirected effort on the part of these teachers while they were undergraduate students. It further points to the fact that every teacher and every counselor should not only know the anticipated number of teaching opportunities in each field, but also the number of prospective candidates for each kind of position.

An individual will devote himself to a four-year program of college preparation only once; he cannot cancel it out and do it all over if his ambitions are not realized. In like manner, the schools of the nation cannot afford the loss of even one good prospective teacher. Careful effort to fit the total number of new teachers to the total number of available jobs is a vital step in relieving the teacher shortage.

State-by-State Progress

Table 2 shows that, among the 52 states and territories, 31 will produce more new elementary school teachers in 1957 than in 1956, while 20 will produce fewer. California anticipates the largest gain—626—followed by New York, 300; Oregon, 184; and Pennsylvania, 180. In no other state will the gain be as many as 150. In 23 states the gain will be fewer than 100.

The largest loss—153—will occur in Georgia. No other state will sustain a loss of as many as 100 new prospective elementary school teachers.

Table 2 also shows that, among the 52 states and territories, 45 will produce more new high school teachers in 1957 than in 1956. New York will lead, with 711. Then will come Texas, 616; Pennsylvania, 496; North Carolina, 439; Ohio, 427; California, 421; Michigan, 355; Virginia 344; and Wisconsin, 314. In six other states the gain will be more than 200 each, and in 12 states the gain will be more than 100 each.

The largest loss—187—will occur in Colorado. No other state will fall as many as 100 in the production of new prospective high school teachers.

Table 2 also shows, state by state, the division by sex of the oncoming group of 107,452 new prospective teachers. California will come up with the largest number of men in the elementary school group, although the total of both sexes will be larger in New York.

The Year-by-Year Picture Since 1950

Table 3 shows a vast change in the production of new teachers during the seven-year span just past. Both in annual totals and in relation to each other the

TABLE 2.--TOTAL NUMBER OF COLLEGE AND UNIVERSITY DEGREE CANDIDATES, BY SEX AND BY STATE, WHO ARE COMPLETING CERTIFICATE REQUIREMENTS IN EACH STATE, IN 1957 AND NET CHANGE FROM 1956
(This table does not include students meeting certificate requirements at 90-, 60-, or 30-hour levels)

State	Prepared for Elementary School Teaching					Prepared for High School Teaching				
	Graduates of 1957		Total	Net Change		Graduates of 1957		Total	Net Change	
	Men	Women	1957	1956	1956 to 1957	Men	Women	1957	1956	1956 to 1957
1	2	3	4	5	6	7	8	9	10	11
Alabama	36	628	664	637	+ 27	723	770	1,493	1,225	+ 268
Alaska	3	11	14	7	+ 7	4	4	8	12	- 4
Arizona	70	347	417	436	- 19	175	112	287	286	+ 1
Arkansas	38	367	405	485	- 80	527	412	939	854	+ 85
California	846	3,944	4,790	4,164	+ 626	2,769	1,855	4,624	4,203	+ 421
Colorado	101	532	633	709	- 76	623	404	1,027	1,214	- 187
Connecticut	103	374	477	414	+ 63	221	217	438	474	- 36
Delaware	4	51	55	62	- 7	21	31	52	71	- 19
District of Columbia	8	128	136	162	- 26	65	88	153	200	- 47
Florida	59	664	723	801	- 78	607	539	1,146	930	+ 216
Georgia (White)	24	315	339	369	- 30	223	363	586	453	+ 133
Georgia (Negro)	32	240	272	395	- 123	73	96	169	240	- 71
Hawaii	17	142	159	160	- 1	16	44	60	56	+ 4
Idaho	22	148	170	189	- 19	150	130	280	277	+ 3
Illinois	356	2,123	2,479	2,341	+ 138	1,815	1,324	3,139	2,941	+ 198
Indiana	119	924	1,043	938	+ 105	1,120	809	1,929	1,711	+ 218
Iowa	50	487	537	528	+ 9	973	677	1,650	1,474	+ 176
Kansas	64	548	612	522	+ 90	728	496	1,224	1,071	+ 153
Kentucky	92	632	724	807	- 83	733	560	1,293	1,105	+ 188
Louisiana	294	1,151	1,445	1,316	+ 129	804	744	1,548	1,286	+ 262
Maine	56	126	182	160	+ 22	128	122	250	229	+ 21
Maryland	78	489	567	422	+ 145	306	283	589	495	+ 94
Massachusetts	175	1,214	1,389	1,339	+ 50	627	602	1,229	1,186	+ 43
Michigan	281	1,917	2,198	2,064	+ 134	1,463	1,293	2,756	2,401	+ 355
Minnesota	77	757	834	858	- 24	1,236	723	1,959	1,682	+ 277
Mississippi (White)	21	374	395	387	+ 8	389	459	848	747	+ 101
Mississippi (Negro)	21	220	241	229	+ 12	210	148	358	275	+ 83
Missouri	105	920	1,025	1,115	- 90	808	598	1,406	1,180	+ 226
Montana	35	83	118	114	+ 4	245	123	368	320	+ 48
Nebraska	54	281	335	384	- 49	544	320	864	789	+ 75
Nevada	10	34	44	31	+ 13	14	22	36	59	- 23
New Hampshire	12	85	97	101	- 4	98	70	168	159	+ 9
New Jersey	86	552	638	561	+ 77	298	375	673	657	+ 16
New Mexico	60	164	224	205	+ 19	259	105	364	308	+ 56
New York	621	4,022	4,643	4,343	+ 300	2,113	2,127	4,240	3,529	+ 711
North Carolina (White)	51	723	774	760	+ 14	779	834	1,613	1,237	+ 376
North Carolina (Negro)	87	456	543	526	+ 17	285	296	581	518	+ 63
North Dakota	12	65	77	79	- 2	329	153	482	406	+ 76
Ohio	119	1,482	1,601	1,449	+ 152	1,665	1,491	3,156	2,729	+ 427
Oklahoma	75	629	704	708	- 4	944	588	1,532	1,388	+ 144
Oregon	165	514	679	495	+ 184	378	277	655	545	+ 110
Pennsylvania	286	1,708	1,994	1,814	+ 180	2,394	1,737	4,131	3,635	+ 496
Puerto Rico	105	280	385	364	+ 21	141	175	316	183	+ 133
Rhode Island	8	120	128	109	+ 19	103	57	160	132	+ 28
South Carolina (White)	18	252	270	270	0	209	403	612	574	+ 38
South Carolina (Negro)	31	256	287	344	- 57	257	198	455	317	+ 138
South Dakota	11	92	103	84	+ 19	297	171	468	379	+ 89
Tennessee	83	632	715	729	- 14	904	810	1,714	1,556	+ 158
Texas	137	1,771	1,908	1,918	- 10	2,528	2,256	4,784	4,168	+ 616
Utah	105	535	640	555	+ 85	427	305	732	620	+ 112
Vermont	40	112	152	144	+ 8	55	50	105	108	- 3
Virginia	35	533	568	596	- 28	447	616	1,063	976	+ 87
Washington	220	589	809	767	+ 42	765	491	1,256	912	+ 344
West Virginia	36	280	316	318	- 2	462	375	837	768	+ 69
Wisconsin	176	904	1,080	988	+ 92	1,033	716	1,749	1,435	+ 314
Wyoming	4	35	39	29	+ 10	67	35	102	100	+ 2
TOTAL	5,834	36,962	42,796	40,801	+ 1,995	35,577	29,079	64,656	56,785	+ 7,871

figures show significant influences upon the supply of new teachers to come from the colleges. These facts are also pointed up in Figure 1. The year 1950 marked the all-time high in total number of bachelor's degrees granted — nearly 434,000. The annual total then dropped steadily for each of the five following years. The 1955 figure— 287,401—represented a decrease of 33.7 per cent.

But one aspect of this steady decrease is generally overlooked, although it has a vital relationship to the production of new teachers. It is the fact that *all of the five-year loss was in men.* In 1950 the number of men to receive bachelor's degrees was 330,000; five years later it was 183,000, a drop of 44.5 per cent. Meanwhile the number of women to receive bachelor's degrees remained constant, year by year, at 104,000, with a variation of less than one per cent during the entire five years.

This phenomenal fluctuation in the number of men graduating from college explains the otherwise mystifying report

TABLE 3.—TOTAL NUMBER OF COLLEGE GRADUATES; NUMBER PREPARED TO TEACH IN EACH HIGH SCHOOL FIELD; NUMBER PREPARED TO TEACH IN ELEMENTARY SCHOOL;

PERCENT OF YEAR-BY-YEAR CHANGE, 1950-1957

(This table does not include students meeting certificate requirements at 90-, 60-, or 30-hour levels)

Line Number	College Graduates	1950	1951	1952	1953	1954	1955	1956	1957
	1	2	3	4	5	6	7	8	9
1	Receiving bachelors' degrees[a]	433,734	384,352	331,924	304,857	292,880	287,401	311,298	
2	Percent change from 1950	....	−11.4%	−23.5%	−29.7%	−32.5%	−33.7%		
	Prepared to teach in high school:								
3	Majors in ART	2,225	2,296	2,249	2,019	1,856	1,930	2,072	2,386
4	Percent change from 1950	....	+ 3.2%	+ 1.1%	− 9.3%	−16.6%	−13.3%	− 6.9%	+ 7.2%
5	Majors in MUSIC	5,296	4,652	4,882	4,641	4,323	4,499	4,798	5,277
6	Percent change from 1950	....	−12.2%	− 7.8%	−12.4%	−18.4%	−15.0%	− 9.4%	− 0.4%
7	Majors in HOME ECONOMICS	4,899	4,640	4,648	4,282	4,212	4,025	4,522	4,794
8	Percent change from 1950	....	− 5.3%	− 5.1%	−12.6%	−14.0%	−17.8%	− 7.7%	− 2.1%
9	Majors in WOMEN'S PHYSICAL ED.	3,178	2,562	2,607	2,485	2,440	2,496	2,629	2,872
10	Percent change from 1950	....	−19.4%	−18.0%	−21.8%	−23.2%	−21.5%	−17.3%	− 9.6%
11	Majors in COMMERCE	7,235	5,750	5,165	4,571	4,076	4,434	5,494	6,118
12	Percent change from 1950	....	−20.5%	−28.6%	−36.8%	−43.7%	−38.7%	−24.1%	−15.4%
13	Majors in FOREIGN LANGUAGE	2,193	2,133	1,859	1,519	1,368	1,328	1,424	1,525
14	Percent change from 1950	....	− 2.7%	−15.2%	−30.7%	−37.6%	−39.4%	−35.1%	−30.5%
15	Majors in SOCIAL SCIENCE	15,349	12,178	9,406	8,149	7,227	7,572	9,125	10,566
16	Percent change from 1950	....	−20.7%	−38.7%	−46.9%	−52.9%	−50.7%	−40.5%	−31.2%
17	Majors in INDUSTRIAL ARTS	4,890	4,284	3,161	2,570	2,201	2,177	2,655	3,354
18	Percent change from 1950	....	−12.4%	−35.4%	−47.4%	−55.0%	−55.5%	−45.7%	−31.4%
19	Majors in MEN'S PHYSICAL EDUCATION	10,614	8,179	6,546	5,416	4,834	4,794	5,718	6,911
20	Percent change from 1950	....	−22.9%	−38.3%	−49.0%	−54.5%	−54.8%	−46.1%	−34.9%
21	Majors in MATHEMATICS	4,618	4,118	3,142	2,573	2,223	2,155	2,544	2,892
22	Percent change from 1950	....	−10.8%	−32.0%	−44.3%	−51.9%	−53.3%	−44.9%	−37.4%
23	Majors in ENGLISH	10,709	9,461	8,211	7,166	5,278	5,507	5,945	6,685
24	Percent change from 1950	....	−11.7%	−23.3%	−33.1%	−50.7%	−48.6%	−44.5%	−37.6%
25	Majors in SCIENCE	9,096	7,507	5,246	4,381	3,641	3,754	4,320	5,044
26	Percent change from 1950	....	−17.5%	−40.3%	−51.8%	−60.0%	−58.7%	−52.5%	−44.5%
27	Majors in AGRICULTURE	3,294	2,404	1,891	1,601	1,541	1,430	1,549	1,716
28	Percent change from 1950	....	−27.0%	−42.6%	−51.4%	−53.2%	−56.6%	−53.0%	−47.9%
29	Total prepared to teach in high school	86,890	73,015	61,510	54,013	48,916	49,697	56,785	64,656
30	Percent change from 1950	....	−16.0%	−29.2%	−37.8%	−43.7%	−42.8%	−34.6%	−25.6%
31	Total prepared to teach in elementary school	28,587	33,782	37,649	37,430	36,885	37,712	40,801	42,796
32	Percent change from 1950	....	+18.2%	+31.7%	+30.9%	+29.0%	+31.9%	+42.7%	+49.7%
33	Grand total prepared to teach	115,477	106,797	99,159	91,443	85,801	87,409	97,586	107,452
34	Percent change from 1950	....	− 7.5%	−14.1%	−20.8%	−25.7%	−24.3%	−15.5%	− 6.9%

[a] The figures in line 1 are taken from the annual report of the U. S. Office of Education.

on the number of college graduates who were prepared for the various teaching fields. From 1950 to 1955 the number prepared for high school teaching went down 34.6 per cent—closely in line with the drop of 33.7 per cent in all bachelor's degrees. But during this same period the number of college graduates prepared to teach in the elementary grades actually increased no less than 31.9 per cent!

Of course, four of every five of these newly qualified elementary school teachers were women. But the annual total of women graduates had remained constant at 104,000. The enlightening fact is that improved standards—the struggle in almost all states to strengthen the qualifications of *elementary school teachers*—was carried forward. And as this battle progressed, the single-salary principle also gave a tremendous lift to the cause of elementary education and to the attracting of competent women to the elementary school classroom.

Science a Special Problem

The history of this five-year period is not so bright at the high school level. Some fields—those taught chiefly by men—dropped in 1955 to less than half the 1950 production. The blow has been particularly severe in the science field.[3] In 1950 as many as 9,096 college graduates with preparation for the teaching certificate had full majors in the sciences. (A small number had concentrated in only one of the sciences—biology, chemistry, or physics—but the majority had completed programs of study including some work in two and perhaps all three of these subjects.) And, in 1950, the competition for scientifically trained manpower was not particularly keen. Thus the high schools had reasonably good opportunity to meet their needs for new science teachers.

But since 1950 changed conditions, highlighted by the need for an enormously expanded national defense, have completely upset any semblance of balance between supply and demand in the science field. Across the board, this reversal has been dramatic; in the high schools is has been tragic. From 9,096 in 1950 the new "supply" fell 58.7 per cent to a mere 3,754 in 1955. And in the meantime the competition for this shrinking supply of new graduates had sharpened to the cutthroat stage. Industry invaded the campuses, not just to interview young men about to graduate, but to raid the college teaching staffs as well. Small wonder that high school offerings in the sciences and mathematics, about which there has been so much lament, do not appear to be strong! The marvel is, in reality, that the high schools have done so much with so little help (salarywise) to compete for the needed teachers.

Special Aid Not the Answer

And now this imbalance in the teacher-supply situation poses what may well develop into an even more dire threat to elementary and secondary education. It is the shortsighted effort, through "crash" programs and special subsidies, to create "special privilege groups" within the whole corps of teachers.

Limited space here permits only these two cautions: (a) Preferred treatment of one group will inevitably lead to greater imbalance among the teaching fields, with the consequent need to rush elsewhere and extend special aids. (b) Preferred treatment of one group cannot fail to wield a devastating blow at the morale of all other groups in the nation's teaching staff.

Colleges To Offer Competition

The consideration of teacher supply for the elementary and high schools cannot be concluded without recognizing the changing role of the colleges. Already their enrollments are at an all-time high—and so is their need for teachers! More students at the undergraduate level will

[3] See explanatory paragraph entitled "Science" on the page facing Table 1.

lead to more bachelor's degree graduates, with the promise of more elementary and high school teachers. But colleges, though they want their new teachers to have the doctor's degree, must content themselves with less—in many cases, much less.

Thus the institutions of higher education (a) comb the public school staffs for the most highly superior teachers with established records, and (b) cast covetous eyes at the topnotch inexperienced persons with master's or even no more than bachelors' degrees. Through an ongoing study by the NEA Research Division it is already discovered that many colleges are stepping up their activities in one or both of these areas. This expanding competition further tempers the optimism which springs from the modest increases since the low-water mark was set in 1955. Surely the time is at hand to redouble all efforts to relieve the teacher shortage.

Part II—The Demand for Teachers

If it had been possible to look into every elementary and high school classroom in the nation during late September, 1956, a casual observer might have reported that he could not discover any teacher shortage—that every demand had been met—because he had found a person in charge of each class of pupils. And he would, of course, have been correct in the latter part of his observation.

But he would not have found evidence that each of these persons was really equipped to be a teacher; he would not have taken into account the overcrowding of many classrooms; he would not have learned how many children were at home awaiting their turn for a half-day session in the same classrooms; and he would not have discovered the school programs which did not include essential educational services or subjects of instruction. In short, his instantaneous peep at more than a million classrooms would give him reason for a completely false view of the ongoing operation. His conclusions concerning the demand for teachers would have been wholly misleading. And such a feeling of general satisfaction with existing conditions could easily lead our casual observer to resist, in good faith, the most conscientious efforts of his fellow laymen to understand the needs of the public school system today.

And therein lies what is probably the most difficult and confused problem confronting educational leadership today. It points to the question: *How can the quality of the whole educational program be so guaranteed that every child will have a fair opportunity in accordance with his capabilities?*

How Can Demand for Teachers Be Defined?

Two popular, but quite different uses of the term "demand for teachers" must be understood in order to give meaning to the data presented in this section of the report. The first of the two following definitions is not easy to convey to the general public, but only by doing so can we adequately express the needs of the schools. And in applying this definition we are further handicapped by an inability to document it with exact, up-to-the-minute figures for each element.

The first definition contemplates the total need for competent instructional personnel to provide each child with a fair educational opportunity. And the effective use of an adequate staff assumes the existence of the needed physical facilities and equipment. Thus, under this first definition, the total "demand

for teachers" must be examined under five sub-heads, as follows:

1. *The demand for new teachers equal to the total number who quit at the end of the preceding year.* This is necessary to assure continued operation of a constant number of classrooms. This "demand" cannot be accurately measured in advance of the opening of a new school year. If it equals eight per cent (a generally accepted estimate) of the total staff, the demand last September was for 95,000.

2. *The demand for new teachers to relieve excessively overcrowded classrooms.* This is the second of the elements which cannot be documented by concise figures. But an investigation a year ago[1] showed that if all elementary school classes in the 3,656 urban school districts of the nation in excess of 30 pupils each could be reduced to that size, it would be necessary to add 30,488 new teachers. Each district must determine for itself what pupil-teacher ratio it wishes to maintain, but there is much convincing evidence that in classes larger than 30 pupils, it becomes increasingly difficult for the teacher to give personal attention to the individual child. And in addition to these overcrowded classes is the unmet need for teachers to provide a full day of instruction for all elementary school pupils. In the study mentioned just above these children in urban districts were reported to total more than one-quarter million in the spring of 1956. A "demand" for 30,000 teachers to meet both of these needs seems conservative.

3. *The demand for new teachers to meet the enlarged enrollment.* Each September since 1945 has brought an increase in the total elementary school enrollment. Both the NEA and the U. S. Office of Education estimated this 1956 increase to be in the order of 800,000 pupils. What is the "demand" for teachers here? Some, of course, can go into existing classes, but in other cases the addition of only a few more pupils makes imperative the organization of another class. (Without doubt classes now at or beyond the maximum are more numerous than those of less than optimum size.) Here again the "demand" cannot be computed exactly, but when the substantial increase in high school enrollment is included—and the estimated total increase in September, 1956, over the preceding May enrollment exceeds one million students—then an estimate of 25,000 again seems conservative.

4. *The demand for new teachers to offer essential instruction and educational services not now provided.* Many elementary schools do not have teachers prepared to give remedial help in such fields as reading and speech; others lack the services of a specialist in the broad field of health education and hygiene; still others omit one or more such fields as handcrafts, music, or art; only a few make serious effort to meet the special educational needs of the handicapped. In many of the high schools the offerings in such fields as mathematics, chemistry, or physics (to mention only those now most widely publicized) are not in keeping with present needs. Sometimes these limited offerings are charged to the continued operation of very small high schools, but more often the real cause is the lack of a qualified teacher. Often the interest in these technical subjects dwindles, not because of lack of ability or interest on the part of students (or, as is sometimes charged, the students' choice of "soft" subjects) but because an incompetent, unprepared teacher, assigned a class outside his own major interests, fails to arouse the enthusiasm or fire the imagination of even the talented students. Here again, of course, it is not possible to pinpoint the "demand" for teachers in neglected fields, but an estimate of 12,500 seems to have obvious justification.

5. *The demand for new teachers to replace the least competent.* Earlier in

[1] *Classroom Size in the Elementary Schools of Urban School Districts, 1955-56.* NEA Research Division. 20 pages. Planographed.

this report it was pointed out that within the past two years five more states have joined the 31 which assert that every elementary school teacher, to be adjudged qualified, must be a college graduate. In the following section of this report it will be shown that two-thirds of the total corps now in service have attained that level. Within the other one-third are many who are conscientiously devoting their summers, evenings, and weekends to the improvement of their qualifications. But at the lower end of the scale are 65,000 with a negligible amount of post-high school preparation of any kind. Here there is no doubt about the minimum "demand" for qualified replacements. The only question concerns the generosity with which the cut-off point has been established. This figure presumes that every teacher with as much as two years of any kind of college education would be excluded from the group to be replaced.

Summary. According to the foregoing definition of "demand for teachers" the elementary and high schools faced this situation last September:

Replacements	95,000
Relieve overcrowding	30,000
Serve added enrollment	25,000
Add necessary services	12,500
Replace the unprepared	65,000
Total	227,500
Qualified members of the Class of 1956	107,500
Current shortage	120,000

It must be emphasized here that the foregoing does not imply that 120,000 classrooms were left vacant last September. But it must also be emphasized that this is a defensible measure of the needs of the elementary and high school system if each child is to be provided a fair educational opportunity, and if the nation is to profit by the potential of each citizen of the next generation. This is in accordance with the first definition of the demand for teachers.

Demand for Teachers, As the Demand Was Met in September 1956

The first definition of "demand," as outlined in the foregoing paragraphs, is a realistic indication of the needs of the elementary and high schools. The second definition is a more limited one; it does no more than to indicate the manner and the extent to which the demand for teachers was met *by the employment of persons who, the preceding year, were not engaged as teachers.* It requires the identification of each new teacher, according to this criterion. It must be noted here that teachers who have shifted from one position to another are not regarded as new teachers. They have not satisfied a "demand" for a new teacher; they have only transferred the demand from one location to another. Thus the application of this second definition of "demand" brings to light the number of persons who came from outside the total corps of teachers the preceding year. These new teachers may have been members of the most recent class of college graduates or they may have graduated at some earlier time. They may be inexperienced or they may have held teaching positions prior to last year. They may be fully qualified or they may hold some type of emergency certificate. Their only distinguishing characteristic is that they did not hold regular teaching positions anywhere the preceding year.

When the total number of such new teachers is determined, this number may be subtracted from the total number "demanded" according to the first definition and the unmet needs (or net demand) of the schools of the nation thus will be indicated. *Such procedure provides a realistic view of the teacher shortage during 1956-57.* It compares what was done to meet the total demand with the total demand itself.

When this part was added to the annual national study some years ago, it was difficult to locate these new teachers and to classify them according to their

TABLE 4.--DEMAND FOR TEACHERS IN SEPTEMBER, 1956, IN 32 STATES, ALASKA, AND THE DISTRICT OF COLUMBIA, AND THE SUPPLY PRODUCED BY COLLEGES IN THE SAME AREAS IN 1955-56

Based on reports from: Alabama, Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, District of Columbia, Florida, Indiana, Kansas, Kentucky, Maine, Maryland, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Washington, Wisconsin, Wyoming.

This table shows the number of persons who entered teaching positions in September, 1956, who did not teach anywhere in 1955-56. Lines 1-21 show new high school teachers. The major assignment is tallied on the line and the minor assignment in the column. Line 22 shows new elementary-school teachers. The column at the extreme right shows the supply of degree graduates produced in 1956 by colleges in these areas. No person is counted twice.

MAJOR	MINOR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL SUPPLY
1	AGRICULTURE	363	1		2	1		22			7		7	1	29	52	8	1	7		6	507	831
2	ART	7	506	6	29	2		10		3	5	5	3	2	3	1			17	2	2	603	841
3	COMMERCE	8	2	1611	100	11	13	3	6	10	51	5	18	29	10	2			106	9	21	2015	2705
4	ENGLISH	24	18	77	2423	262	17	3	74	115	66	35	23	47	50	19	2	4	716	205	41	4221	3080
5	FOREIGN LANGUAGE		1	3	128	320	9	1	2		8	1		3	3	1	1		50	1		532	639
6	HOME ECONOMICS	4	17	20	63	19	1428			8	10	1	4	77	80	54	7	3	27		6	1828	2345
7	INDUSTRIAL ARTS	5	1	6	8		3	843			62		62	2	50	9	1	3	37		24	1116	1378
8	JOURNALISM				15				17										5			37	29
9	LIBRARY SCIENCE	5	1	2	34	5	4			238	3	1			1	1	2		19		1	317	111
10	MATHEMATICS	9	2	28	59	10	1	17		5	1376	8	68	12	336	34	49	81	123	2	17	2237	1302
11	MUSIC	7	12	7	77	4	1	1	1	2	18	1460	6	4	5	6		2	39	2	10	1664	2116
12	PHYS. ED.—MEN	9	1	26	17			20			78	5	875	36	99	62	5	3	247	5	29	1517	2806
13	PHYS. ED.—WOMEN	6	8	20	33	1	7		1	2	17	8	9	744	37	25			63	1	18	1000	1263
14	GENERAL SCIENCE	10	3	7	27	2	8	6		1	222	1	71	27	835	115	37	29	93	1	17	1512	829
15	BIOLOGY	7		2	8	2	8	2		4	39	2	33	13	75	234	50	23	33	1	11	547	1090
16	CHEMISTRY	1				1	1	1			31		3	1	27	33	140	34	7	1	2	283	305
17	PHYSICS	1	1		1			1			30		1		13	5	7	97	4		1	162	130
18	SOCIAL STUDIES	15	7	48	268	35	5	14	6	16	90	29	209	39	75	31	4	6	1804	25	52	2778	4558
19	SPEECH				79	1			1		4	1	1	1					11	153	8	260	668
20	OTHER	11	1	9	26	4	3	4	1	1	33	2	11	3	10	2	1		28	22	1591	1763	720
21	HIGH SCHOOL TOTAL																					24,877	27,746
22	ELEMENTARY SCHOOL TOTAL																					37,200	17,871

teaching assignments. Progress in this effort has been dictated by the resources in the various state departments of education. The need for this information was quickly recognized, with the result that the annual report has been strengthened year by year.

Table 4 presents a composite of complete reports from 34 of the 52 states and territories. This table is packed with vital information for use in the counseling of students who are at the point of choosing a particular field of concentration after the decision to prepare for teaching has been made. The table shows the frequency with which vacancies open to new teachers are likely to occur, the propects for a full-time assignment in one field against the likelihood of being required to teach in two fields, and the most common of these combinations. It also shows the number of members of the most recent graduating class who are prepared in each field, and thus provides a comparison of the number of vacant teaching positions with the number of eligible new candidates in each field.[2]

Column A of Table 4 shows the number of new teachers employed in September 1956 in each of these fields. For example, line 4 shows a total of 4,221 new English teachers; column 4 shows that 2,423 of this group have positions in which they teach only the one subject, but the others combine a major assignment in English with a minor assignment in another subject, as shown by the other entries on line 4. Column B, line 4 shows that the colleges in these states produced 3,080 graduates with major preparation for the teaching of English.

[2]Appendix B contains a separate table for each of the states contributing to this composite table. These tables show that conditions vary widely from state to state.

Table 4 also provides the basis for a comparison of "demand," as it was met by the employment of new teachers, with the total demand, as measured by the first definition offered above. Lines 21 and 22, column A, show the total number of new teachers employed in the 34 reporting states. In five other states[3] however, it was possible to determine the number of new teachers employed last September, although these new teachers could not be distributed among the specific fields in the exact manner required for inclusion in Table 4. By combining the totals, the number of new elementary school teachers employed in 39 states becomes 53,301, and the number of new high school teachers becomes 35,147. These teachers, totaling 88,448, were employed in the 39 states which have a combined teaching staff of 764,780, or 64.0 per cent of the entire staff of the nation. Thus these 88,448 new teachers may be considered to be 64.0 per cent of all new teachers employed last September—138,200.

To summarize: if this total number of new teachers employed last September is subtracted from the actual needs of the schools (total demand according to the first definition stated above)—225,000 less 138,000—the net shortage would be 87,000. *But this assumes that every one of the 138,000 employed last September is a qualified teacher, which is known to be untrue!* The fact is that approximately 35,000 of these new teachers did not meet the standards of the state in which they were employed, even considering the modest standards of those 16 states which do not set college graduation as the goal. These figures thus confirm the existing net shortage of at least 120,000, as stated earlier in this section.

[3]California, Hawaii, New Jersey, Puerto Rico, and Texas.

Part III—Analysis of the Preparation of Elementary School Teachers

PROGRESS in the effort to strengthen the public school system can be sought through a number of channels. Certainly one significant step forward would be the upgrading of the teaching staff—an increase in the general level of formal education beyond the high school. The data presented in this section show some accomplishments toward this end during the past eight years. The information is limited to the elementary school corps, since it has been and continues to be the area of most urgent need.

With the development of the public high school before the turn of the century came the belief that the teachers at that level should be more highly educated than the teachers of small children. For nearly 50 years there has been support for the argument that all high school teachers should be college graduates. This position was strengthened by the attitude of many of the colleges and universities. These institutions—leaders in the world of higher education—almost uniformly assumed that the preparation of high school teachers was one of their functions (although some of them have been slow to recognize that the offering of sound preparation for elementary school teachers is an educational challenge of equal importance).

At the outbreak of World War II only a few states embraced the concept of the elementary school teacher being a college graduate, and a state-wide effort to put it into effect was rare. Small wonder, then, that the grade schools were in a pitiful condition at the close of the war in 1945. At that time it was estimated that some 600,000 elementary school teachers had left the classroom during the four years of the war. Many, of course, had entered military service, but many others were enticed to enter other occupations. And, naturally, both of these movements claimed the better teachers in large numbers.

The real rebuilding of the elementary school corps has been accomplished in the last decade. With the impetus of the Chautauqua Conference, the really serious effort to provide an educated person for every elementary school classroom was launched. While the goal is yet in the distance, the progress shown in this report may well rank as the major educational achievement of the decade. And it is all the more remarkable because this improvement has gone steadily forward in the face of mounting enrollments of an unprecedented nature.

The consistent upgrading of the total elementary school corps not only is evidence of the sincere interest of good students in teaching as a profession; it substantiates the belief that a balance between total demand and toal supply can be achieved through further improvement of standards and working conditions, recognition of the professional status of all teachers, and the increase of salaries to a truly competitive level. This accomplishment of the past decade goes far to repudiate the doleful contention that it will be impossible to achieve a balance between the supply of really qualified teachers and the demand for them. It is, in truth, a resounding vote of confidence by the young men and women of the nation in the public educational system.

Table 5 tells the story in brief. Beginning in 1948-49, 23 states made an analysis of the preparation of all elemen-

TABLE 5.—PREPARATION OF ALL ELEMENTARY SCHOOL TEACHERS IN CERTAIN STATES, INDICATED IN SEMESTER HOURS OF CREDIT, ANNUALLY SINCE 1949

Year	Number of states participating[a]	120 or More Hrs.		60-119 Hrs.		Less Than 60 Hrs.		Total	
		No. of Teachers	PerCent of Total	No. of Teachers	PerCent of Total	No. of Teachers	PerCent of Total	No. of Teachers	PerCent of Total
1	2	3	4	5	6	7	8	9	10
1948-49	23	108,827	49.07%	75,453	34.02%	37,507	16.91%	221,787	100.00%
1949-50	37	156,768	46.71	122,734	36.57	56,117	16.72	335,619	100.00
1950-51	39	184,307	48.85	133,430	35.36	59,594	15.79	377,331	100.00
1951-52	36	201,731	54.65	123,428	33.44	43,987	11.91	369,146	100.00
1952-53	30	209,176	60.44	108,068	31.23	28,848	8.33	346,092	100.00
1953-54	35	281,476	64.72	124,789	28.70	28,629	6.58	434,894	100.00
1954-55	32	316,775	67.62	123,018	26.26	28,652	6.12	468,445	100.00
1955-56	34	331,508	69.33	119,257	24.95	27,340	5.72	478,105	100.00
1956-57	41	365,030	69.59	132,784	25.31	26,728	5.10	524,542	100.00

[a]Not exactly the same states participated each year. Several state offices cannot complete this study until the close of the academic year. The list of states participating in this part of the study each year is shown in the Annual National Teacher Supply and Demand Report for that year.

tary school teachers then in service, in terms of semester hours earned.[1]

Since that date a varying number of states participated in the investigation from year to year, as indicated in column 2 of Table 5. The chief facts to be noted, however, are in columns 4 and 8.

Beginning in 1948-49, of all elementary schol teachers in service in the 23 reporting states, only 49.1 per cent were college graduates (column 4) and as many as 16.9 per cent (column 8) had completed less than one-half of a four-year college program. In the succeeding years the data came from a varying combination of states, but each year the per cent increased in column 4 and decreased in column 8. The 1956-57 figures show almost seven of every ten elementary school teachers in service to be college graduates, whereas just under one-half of them were so reported eight years earlier.

Table 6 presents an exact picture of the accomplisments in the 12 states which reported each year since 1948. In these widely scattered states—a fair cross-section of the nation—the per cent of college graduates has come from 46 to 69, and the per cent of teachers with less than two years of college education has fallen from 16.5 to 3.3.

[1]This is, of course, only a raw measure of the total competence of the teacher. A next step, yet to be developed, is to analyze the content of the college courses pursued to determine the extent to which they contributed directly to the fitness of the teacher for the specific position the teacher holds. It is reasonable to assume that a good many college graduates now serving as elementary school teachers have had little or no preparation for work with small children. The extent to which this situation exists is not shown anywhere in this report.

TABLE 6.—PREPARATION OF ALL ELEMENTARY SCHOOL TEACHERS IN 11 STATES AND THE DISTRICT OF COLUMBIA, INDICATED IN SEMESTER HOURS OF CREDIT, ANNUALLY SINCE 1949[a]

Year	120 or More Hrs.		60-119 Hrs.		Less Than 60 Hrs.		Total	
	No. of Teachers	PerCent of Total	No. of Teachers	PerCent of Total	No. of Teachers	PerCent of Total	No. of Teachers	PerCent of Total
1	2	3	4	5	6	7	8	9
1948-49	59,062	45.97%	48,178	37.50%	21,241	16.53%	128,481	100.00%
1949-50	62,298	48.75	44,765	35.03	20,732	16.22	127,795	100.00
1950-51	73,974	55.00	44,937	33.41	15,595	11.59	134,506	100.00
1951-52	79,104	57.65	45,471	33.14	12,636	9.21	137,211	100.00
1952-53	85,019	61.23	44,175	31.81	9,668	6.96	138,862	100.00
1953-54	92,129	63.61	44,982	31.06	7,729	5.33	144,840	100.00
1954-55	100,194	65.72	45,511	29.85	6,761	4.43	152,466	100.00
1955-56	107,584	67.73	45,125	28.41	6,126	3.86	158,835	100.00
1956-57	114,464	69.36	45,180	27.37	5,396	3.27	165,040	100.00

[a]States submitting complete reports each year: Alabama, Arizona, Connecticut, District of Columbia, Kansas, Kentucky, Missouri, North Carolina, Ohio, Utah, Vermont, and Wisconsin.

TABLE 7.—ANALYSIS OF PREPARATION, IN SEMESTER HOURS OF CREDIT, OF ELEMENTARY SCHOOL TEACHERS IN 36 STATES, ALASKA, HAWAII, PUERTO RICO, AND DISTRICT OF COLUMBIA IN 1956-57

Wherever possible, the elementary school teachers in service in a state are divided into seven groups, as shown in the seven column headings of this table. In some of the participating states it was only possible to divide the teachers into broader groups. The totals, therefore, are shown in only these five groups: teachers having 120 or more semester hours of college credit; teachers having 60 but not more than 119 semester hours; teachers having 30 but not more than 59 semester hours; teachers having not more than 29 semester hours, and those having no college credit.

In 31 states, Alaska, Hawaii, Puerto Rico, and the District of Columbia it was possible to make a separate analysis of the preparation of all new elementary school teachers entering service in September, 1956. These reports are shown in separate lines in *italics*. They provide a quick method of determining whether the new group improves or pulls down the average preparation of all elementary school teachers in service in that state. These new teachers are included in the state total shown in the preceding line; they are not added twice in the grand total.

State	150 or More Hrs.		120-149 Hrs.		90-119 Hrs.		60-89 Hrs.		30-59 Hrs.		1-29 Hrs.		No Hrs.		Total	
	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total	No. of Teachers	Per Cent of Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Alabama	1,172	8.0%	10,043	69.0%	1,255	8.6%	1,273	8.8%	822	5.6%	0	0.0%	0	0.0%	14,565	100.0%
Alabama (New in 1956-57)	*30*	*3.3*	*624*	*68.9*	*77*	*8.5*	*100*	*11.0*	*75*	*8.3*	*0*	*0.0*	*0*	*0.0*	*906*	*100.0*
Alaska	180	15.4	800	68.5	127	10.9	40	3.4	9	0.8	8	0.7	3	0.3	1,167	100.0
Alaska (New in 1956-57)	*22*	*10.1*	*154*	*70.7*	*16*	*7.3*	*16*	*7.3*	*6*	*2.8*	*4*	*1.8*	*0*	*0.0*	*218*	*100.0*
Arizona	1,525	21.2	5,563	77.1	122	1.7	0	0.0	0	0.0	0	0.0	0	0.0	7,210	100.0
Arizona (New in 1956-57)	*236*	*31.5*	*501*	*66.8*	*13*	*1.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*750*	*100.0*
Arkansas	759	11.1	3,888	56.7	1,126	16.4	821	12.0	245	3.5	14	0.2	4	0.1	6,857	100.0
Arkansas (New in 1956-57)	*42*	*5.8*	*306*	*41.9*	*124*	*17.0*	*177*	*24.2*	*71*	*9.7*	*8*	*1.1*	*2*	*0.3*	*730*	*100.0*
California	—56,315 teachers—		—90.8 per cent—		3,308	5.3	2,108	3.4	260	0.4	39	0.1	7	•	62,037	100.0
Colorado	848	10.8	5,139	65.1	765	9.7	1,109	14.0	30	0.4	3	•	1	•	7,895	100.0
Colorado (New in 1956-57)	*15*	*2.5*	*472*	*80.0*	*35*	*5.9*	*63*	*10.7*	*4*	*0.7*	*1*	*0.2*	*0*	*0.0*	*590*	*100.0*
Connecticut	1,958	18.7	6,451	61.8	685	6.5	1,262	12.1	41	0.4	29	0.3	20	0.2	10,446	100.0
Connecticut (New in 1956-57)	*69*	*5.8*	*1,047*	*87.2*	*28*	*2.3*	*53*	*4.4*	*3*	*0.2*	*0*	*0.0*	*1*	*0.1*	*1,201*	*100.0*
Delaware	268	16.8	985	61.6	60	3.8	178	11.1	32	2.0	53	3.3	22	1.4	1,598	100.0
Delaware (New in 1956-57)	*10*	*5.3*	*149*	*78.8*	*3*	*1.6*	*19*	*10.0*	*4*	*2.1*	*2*	*1.1*	*2*	*1.1*	*189*	*100.0*
D. C.	—1,693 teachers—		—83.3 per cent—		193	9.5	110	5.4	19	0.9	19	0.9	0	0.0	2,034	100.0
D. C. (New in 1956-57)	*—213 teachers—*		*—100.0 per cent—*		*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*213*	*100.0*
Hawaii	917	49.3	594	31.9	206	11.1	96	5.1	24	1.3	24	1.3	0	0.0	1,861	100.0
Hawaii (New in 1956-57)	*84*	*28.6*	*172*	*58.5*	*38*	*12.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*294*	*100.0*
Illinois[b]	7,512	18.9	20,096	50.7	5,311	13.4	5,564	14.0	1,109	2.8	61	0.2	0	0.0	39,653	100.0
Indiana	4,867	25.2	9,961	51.6	1,785	9.3	2,412	12.5	256	1.3	21	0.1	0	0.0	19,302	100.0
Indiana (New in 1956-57)	*243*	*13.5*	*1,186*	*66.1*	*131*	*7.3*	*192*	*10.7*	*35*	*2.0*	*8*	*0.4*	*0*	*0.0*	*1,795*	*100.0*
Iowa	1,415	8.7	3,916	24.1	1,981	12.2	5,540	34.0	1,914	11.8	1,485	9.1	14	0.1	16,265	100.0
Iowa (New in 1956-57)	*73*	*3.4*	*466*	*21.5*	*113*	*5.2*	*1,115*	*51.5*	*164*	*7.6*	*229*	*10.6*	*5*	*0.2*	*2,165*	*100.0*
Kansas	2,649	18.3	6,179	42.8	2,303	16.0	3,087	21.4	209	1.4	10	0.1	2	•	14,439	100.0
Kansas (New in 1956-57)	*124*	*7.1*	*822*	*47.2*	*272*	*15.6*	*517*	*29.7*	*7*	*0.4*	*0*	*0.0*	*0*	*0.0*	*1,742*	*100.0*
Kentucky	912	6.1	5,699	37.9	3,010	20.0	3,953	26.3	922	6.1	494	3.3	41	0.3	15,031	100.0
Maine	207	4.0	1,574	30.8	1,033	20.2	1,659	32.5	640	12.5	0	0.0	0	0.0	5,113	100.0
Maine (New in 1956-57)	*10*	*1.9*	*267*	*50.6*	*84*	*15.9*	*108*	*20.4*	*59*	*11.2*	*0*	*0.0*	*0*	*0.0*	*528*	*100.0*
Maryland	1,543	15.2	5,765	56.8	955	9.4	1,507	14.9	271	2.7	19	0.2	81	0.8	10,141	100.0
Minnesota	487	3.7	3,971	30.3	1,613	12.3	5,345	40.8	1,551	11.9	129	1.0	0	0.0	13,096	100.0
Minnesota (New in 1956-57)	*0*	*0.0*	*858*	*70.4*	*0*	*0.0*	*285*	*23.4*	*75*	*6.2*	*0*	*0.0*	*0*	*0.0*	*1,218*	*100.0*
Mississippi[b]	574	5.4	5,382	50.2	2,019	18.8	1,517	14.2	854	8.0	368	3.4	0	0.0	10,714	100.0
Missouri	3,911	20.7	8,902	47.2	2,201	11.7	2,719	14.4	1,100	5.8	27	0.2	3	•	18,863	100.0
Montana	555	13.0	1,147	26.9	837	19.6	1,564	36.6	157	3.7	10	0.2	0	0.0	4,270	100.0
Montana (New in 1956-57)	*23*	*7.2*	*71*	*22.3*	*25*	*7.8*	*181*	*56.7*	*19*	*6.0*	*0*	*0.0*	*0*	*0.0*	*319*	*100.0*
Nebraska	340	3.7	2,117	22.9	1,293	14.0	2,415	26.1	1,761	19.1	1,196	12.9	122	1.3	9,244	100.0
Nebraska (New in 1956-57)	*30*	*1.7*	*219*	*12.3*	*112*	*6.3*	*469*	*26.4*	*330*	*18.6*	*494*	*27.9*	*120*	*6.8*	*1,774*	*100.0*
Nevada	261	15.6	902	53.8	257	15.3	215	12.8	37	2.2	3	0.2	1	0.1	1,676	100.0
Nevada (New in 1956-57)	*20*	*8.9*	*158*	*69.9*	*20*	*8.9*	*26*	*11.5*	*2*	*0.8*	*0*	*0.0*	*0*	*0.0*	*226*	*100.0*

New Hampshire[b]	97	4.5	865	40.0	303	14.0	759	35.1	76	3.5	50	2.3	13	0.6	2,163	100.0
New Hampshire (New in 1956-57)	*10*	*2.9*	*224*	*64.0*	*40*	*11.4*	*68*	*19.4*	*3*	*0.9*	*5*	*1.4*	*0*	*0.0*	*350*	*100.0*
New Mexico	1,086	24.0	3,141	69.5	249	5.5	46	1.0	0	0.0	0	0.0	0	0.0	4,522	100.0
New Mexico (New in 1956-57)	*53*	*11.4*	*361*	*78.0*	*35*	*7.6*	*14*	*3.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*463*	*100.0*
North Carolina (White)	1,800	9.8	14,637	79.6	1,350	7.3	385	2.1	160	0.9	50	0.3	0	0.0	18,382	100.0
North Carolina (White—New in 1956-57)	*35*	*1.9*	*1,440*	*78.6*	*276*	*15.1*	*41*	*2.2*	*23*	*1.3*	*12*	*0.7*	*4*	*0.2*	*1,831*	*100.0*
North Carolina (Negro)	950	13.7	5,943	85.4	50	0.7	15	0.2	0	0.0	0	0.0	0	0.0	6,958	100.0
North Carolina (Negro—New in 1956-57)	*29*	*6.1*	*428*	*90.7*	*9*	*1.9*	*0*	*0.0*	*6*	*1.3*	*0*	*0.0*	*0*	*0.0*	*472*	*100.0*
North Dakota[a]	39	0.9	548	12.0	316	7.0	2,034	44.7	1,043	22.9	469	10.3	99	2.2	4,548	100.0
North Dakota (New in 1956-57)[d]	*0*	*0.0*	*48*	*15.9*	*253*	*83.8*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*302*	*100.0*
Ohio	5,021	14.5	16,795	48.5	5,609	16.2	6,718	19.4	415	1.2	71	0.2	0	0.0	34,629	100.0
Ohio (New in 1956-57)	*0*	*0.0*	*3,090*	*74.0*	*251*	*6.0*	*835*	*20.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*4,176*	*100.0*
Oklahoma	3,107	26.2	8,518	71.7	226	1.9	25	0.2	0	0.0	0	0.0	0	0.0	11,876	100.0
Oklahoma (New in 1956-57)	*9*	*1.4*	*609*	*97.2*	*9*	*1.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*627*	*100.0*
Oregon	3,631	34.4	4,529	43.0	1,752	16.6	545	5.2	87	0.8	0	0.0	0	0.0	10,544	100.0
Oregon (New in 1956-57)	*291*	*23.4*	*663*	*53.3*	*174*	*14.0*	*99*	*8.0*	*16*	*1.3*	*0*	*0.0*	*0*	*0.0*	*1,243*	*100.0*
Puerto Rico	—1,901 teachers—		—24.1 per cent—		—5,539 teachers—		—70.1 per cent—		456	5.8	0	0.0	0	0.0	7,896	100.0
Puerto Rico (New in 1956-57)	*—350 teachers—*		*—28.5 per cent—*		*—598 teachers—*		*—48.6 per cent—*		*282*	*22.9*	*0*	*0.0*	*0*	*0.0*	*1,230*	*100.0*
South Carolina (White)	606	8.2	5,198	70.9	841	11.5	482	6.6	0	0.0	203	2.8	0	0.0	7,330	100.0
South Carolina (White—New in 1956-57)	*6*	*1.2*	*452*	*87.6*	*30*	*5.8*	*21*	*4.1*	*7*	*1.3*	*0*	*0.0*	*0*	*0.0*	*516*	*100.0*
South Carolina (Negro)	414	7.9	3,964	75.5	496	9.4	290	5.5	0	0.0	88	1.7	0	0.0	5,252	100.0
South Carolina (Negro—New in 1956-57)	*5*	*2.2*	*216*	*95.6*	*3*	*1.3*	*2*	*0.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*226*	*100.0*
South Dakota	—639 teachers—		—11.3 per cent—		—2,723 teachers—		—48.0 per cent—		2,225	39.3	78	1.4	0	0.0	5,665	100.0
South Dakota (New in 1956-57)[e]	*—73 teachers—*		*—13.4 per cent—*		*—241 teachers—*		*—44.4 per cent—*		*204*	*37.6*	*25*	*4.6*	*0*	*0.0*	*543*	*100.0*
Tennessee	2,131	10.8	10,301	52.4	2,564	13.1	3,698	18.8	309	1.6	647	3.3	0	0.0	19,650	100.0
Tennessee (New in 1956-57)[f]	*5*	*0.4*	*720*	*64.7*	*92*	*8.3*	*136*	*12.2*	*40*	*3.6*	*120*	*10.8*	*0*	*0.0*	*1,113*	*100.0*
Texas	12,820	31.2	26,695	64.9	1,073	2.6	392	0.9	126	0.3	33	0.1	0	0.0	41,139	100.0
Texas (New in 1956-57)	*250*	*4.8*	*4,475*	*86.1*	*259*	*5.0*	*60*	*1.2*	*152*	*2.9*	*0*	*0.0*	*0*	*0.0*	*5,196*	*100.0*
Utah	801	19.8	2,583	64.0	281	7.0	267	6.6	79	2.0	21	0.5	5	0.1	4,037	100.0
Utah (New in 1956-57)	*3*	*0.6*	*392*	*80.3*	*36*	*7.4*	*48*	*9.9*	*6*	*1.2*	*1*	*0.2*	*2*	*0.4*	*488*	*100.0*
Vermont	77	4.0	770	39.4	266	13.6	664	34.0	157	8.0	19	1.0	0	0.0	1,953	100.0
Vermont (New in 1956-57)	*5*	*2.4*	*128*	*61.5*	*18*	*8.7*	*44*	*21.1*	*11*	*5.3*	*2*	*1.0*	*0*	*0.0*	*208*	*100.0*
Virginia	525	3.2	9,290	56.2	4,958	30.0	0	0.0	1,756	10.6	0	0.0	0	0.0	16,529	100.0
Virginia (New in 1956-57)	*57*	*1.6*	*2,539*	*69.1*	*698*	*19.0*	*0*	*0.0*	*379*	*10.3*	*0*	*0.0*	*0*	*0.0*	*3,673*	*100.0*
West Virginia[g]	1,421	15.3	4,642	50.1	863	9.3	1,650	17.8	246	2.7	441	4.8	0	0.0	9,263	100.0
West Virginia (New in 1956-57)[g]	*16*	*3.3*	*185*	*38.2*	*65*	*13.4*	*117*	*24.2*	*36*	*7.5*	*65*	*13.4*	*0*	*0.0*	*484*	*100.0*
Wisconsin	1,857	11.2	6,573	39.9	2,454	14.9	4,948	30.0	628	3.8	33	0.2	0	0.0	16,493	100.0
Wisconsin (New in 1956-57)	*40*	*2.2*	*773*	*42.6*	*127*	*7.0*	*814*	*44.8*	*60*	*3.3*	*1*	*0.1*	*0*	*0.0*	*1,815*	*100.0*
Wyoming	100	4.5	1,073	48.0	397	17.8	617	27.6	48	2.1	1	*	0	0.0	2,236	100.0
Wyoming (New in 1956-57)	*5*	*2.1*	*114*	*48.1*	*26*	*11.0*	*82*	*34.6*	*10*	*4.2*	*0*	*0.0*	*0*	*0.0*	*237*	*100.0*
Number of teachers			365,030				132,784			20,074		6,216		438		524,542
Per Cent of total			69.6				25.3			3.8		1.2		0.1		100.0

* Less than one-tenth of one per cent. [b] This report is for 1955-56, not 1956-57. [c] Does not include teachers in 93 of the 405 grade schools. [d] Does not include 659 new rural school teachers. [e] Includes inexperienced teachers only. Total new elementary-school teachers: 1166. [f] Includes inexperienced teachers only. [g] Includes teachers in 51 of the 55 counties.

What more convincing evidence could be desired than that, given a fair measure of support, the schools of the nation can be supplied with competent teachers in the numbers needed? It goes far to vitiate the trumpeting of the cynics who, posing as unprejudiced laymen, proclaim the impossibility of staffing the schools with the number of teachers required to meet the needs of the expanding enrollment. We need not warn the public that the schools are demanding an unfair share of our total manpower resources. Rather, we need to cite more realistically the prior nature of the need for resources to obtain this manpower.

Table 7 pinpoints both the encouraging and the discouraging aspects of the current scene. The state-by-state survey shows the vast differences in the quality of educational opportunity across the nation. This table brings out the fact that the general progress shown in Table 5 is not uniform—that the problem in one state is not at all like the problem in another state.

A feature of Table 7 is the separate view of the qualifications of newly employed teachers, as shown in the italicized lines. Literally, "to them that hath is given, and to them that hath not. . ." The states with the strongest total corps of elementary school teachers are generally successful in the effort to add new teachers with higher-than-average qualifications; those with total staffs at a modest level of educational background sometimes add a new group which tends to pull down the average.

In the struggle to relieve the teacher shortage it is easy to magnify the importance of numbers. Larger numbers of teachers must be had, of course. But the real test of progress is and will continue to be in the qualities these future teachers bring to the classroom. The depth and scope of their education will be the significant measuring rod.

Part IV—Present Occupations of Members of the Class of 1956

THROUGHOUT the ten years of this annual national study, first emphasis has been focused upon the most recent class of college graduates who have met the requirements for the standard certificate. This group has come to be known as the new "supply." The national report is complete in that it includes figures from all of the colleges engaged in the preparation of teachers. In another sense, however, it is far from complete, unless it also indicates the extent to which these newly qualified persons actually became candidates and entered classroom service.

In 1954 the first attempt was made to refine the meaning of these "supply" figures. Information was sought concerning the occupations in which qualified members of the Class of 1953 were engaged on November 1 following graduation. Surprisingly, as we view it now, only a small minority of the colleges had established records of the vocational activities of their graduates. On many campuses there was lack of realization that this information was a basic item in any effective counseling program.[1] On other campuses the necessary facilities to assemble and maintain the records seemed to be lacking. In consequence, the 1954 report covered the occupations of only 13.2 per cent of the Class of 1953.

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[1]The NEA Research Division is now engaged in a study of factors related to the supply of and demand for college teachers. Here a first question is, What occupations claim graduate students at the time they qualify for the doctor's degree? A concise answer to this question is of growing importance to the employers of college teachers but inquiry reveals that many of the graduate schools not only do not have this information, but fail to see the need for it.

The publication of that report, however, aroused the interest of many college officials. Thus the 1955 report on the occupations of members of the Class of 1954 covered 47.9 per cent of that group; the 1956 report accounted for 74.4 per cent of the Class of 1955, and this report shows the occupations of 78.4 per cent of the Class of 1956 who were eligible to enter teaching. It seems likely that this procedure will soon extend to all campuses on which teachers are prepared.

Wide Variation Among Fields

Table 8 shows the wide range, from field to field, in the per cent of loss of this new supply. The elementary schools fare the best; they have gained the services of 80.8 per cent of all members of the Class of 1956 who followed the full program of preparation for teaching in the elementary grades. Among those prepared for high school teaching, the results are quite different.

On the average, the high schools obtained the services of 63.2 of the group prepared for teaching in the various fields. This includes 60.1 of the men and 66.7 of the women. But this "two of every three" does not apply uniformly. The per cent of the total in each field who entered classroom service is as follows:

Field	Per Cent
Women's Physical Education	78.2
English	70.6
Music	68.9
Art	66.5
Mathematics	66.3
Home Economics	65.2
Foreign Languages	64.4
Industrial Arts	61.5
Speech	61.5
Men's Physical Education	60.2
Social Studies	59.8
All Sciences	59.4
Commerce	57.0
Agriculture	50.6

The distribution of fields is quite different when the question is asked, What per cent of these eligible teachers entered other occupations? This loss ranges widely, as follows:

Field	Per Cent
Commerce	21.2
Agriculture	16.2
Industrial Arts	13.1
Mathematics	11.9
Home Economics	10.9
All Sciences	10.1
Speech	8.6
Social Studies	8.5
Men's Physical Education	7.5
Art	6.4
English	6.0
Foreign Languages	5.9
Music	3.8
Women's Physical Education	3.3

Table 8 also shows the per cent of the 1956 "supply" who have continued with formal study. The foreign language majors are high, with 10.5 pursuing advanced study. Next come science, with 9.3 per cent, and social studies, with 9.2 per cent. Low are commerce, with only 2.3 per cent, and home economics, with 2.6 per cent.

Military service claimed as many as 15 per cent of the majors in agriculture and men's physical education, 11.1 in industrial arts, 7.8 per cent in social studies, 6.8 per cent in the sciences, and 5.3 per cent in mathematics. Homemaking has claimed 11.2 per cent of the women prepared to teach home economics, and 6.1 per cent of the women majors in physical education.

The final meaning of these losses from teaching service must await future developments in the case of each individual. It is quite likely that a considerable number of those now pursuing graduate study will ultimately enter teaching. As they continue their studies beyond the baccalaureate, however, they attract the interest of college officials, and the likelihood of their return to the high school level decreases accordingly.

Again, the future occupational choices of the men now in military service must await their return to civilian life. And the educated woman who becomes a homemaker is coveted by the employers of teachers at all levels.

TABLE 8--OCCUPATION, ON NOVEMBER 1, 1956, OF PERSONS WHO GRADUATED BETWEEN SEPTEMBER 1, 1955, AND AUGUST 31, 1956, WITH QUALIFICATIONS FOR STANDARD TEACHING CERTIFICATES

Complete reports from: Alabama, Alaska, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Iowa, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, Oklahoma, Oregon, Pennsylvania, South Dakota, Utah, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.
Incomplete reports from: Arizona, Arkansas, California, Colorado, District of Columbia, Florida, Georgia, Kansas, Michigan, North Carolina, Ohio, Puerto Rico, Rhode Island, South Carolina, and Texas.

Field of preparation	Percent teaching			Percent not teaching							Total percent	Number of graduates included
	In State	Out of State	Total	Otherwise gainfully employed	Continuing formal study	Military service	Home-making (women)	Seeking teaching job	Seeking non-teaching job	No information		
1	2	3	4	5	6	7	8	9	10	11	12	13
High school (by field)												
Agriculture												
Men	46.7%	4.1%	50.8%	16.3%	5.5%	15.6%	0.0%	0.9%	0.2%	10.7%	100.0%	1,224
Women	14.3	0.0	14.3	14.3	0.0	0.0	14.3	0.0	0.0	57.1	100.0	7
Both	46.5	4.1	50.6	16.2	5.5	15.5	0.1	0.9	0.2	11.0	100.0	1,231
Art												
Men	47.5	11.5	59.0	7.3	5.8	14.2	0.0	0.9	1.3	11.5	100.0	451
Women	56.0	14.9	70.9	5.9	2.5	0.1	8.7	1.4	0.5	10.0	100.0	780
Both	52.9	13.6	66.5	6.4	3.7	5.3	5.5	1.2	0.8	10.6	100.0	1,231
Commerce												
Men	43.8	10.9	54.7	21.0	5.0	9.5	0.0	0.4	1.6	7.8	100.0	1,568
Women	46.0	11.0	57.0	21.4	2.3	0.1	7.3	1.6	1.4	8.9	100.0	2,505
Both	45.2	11.0	56.2	21.2	3.3	3.7	4.5	1.2	1.4	8.5	100.0	4,073
English												
Men	47.4	15.6	63.0	7.1	11.6	8.3	0.0	1.0	0.3	8.7	100.0	1,320
Women	54.5	16.1	70.6	5.6	4.7	0.0	8.2	1.7	0.3	8.9	100.0	3,110
Both	52.4	16.0	68.4	6.0	6.8	2.5	5.8	1.4	0.3	8.8	100.0	4,430
Foreign Languages												
Men	42.4	14.6	57.0	3.4	19.3	9.5	0.0	1.7	0.0	9.1	100.0	295
Women	49.8	14.6	64.4	7.0	6.4	0.2	9.7	1.9	0.2	10.2	100.0	638
Both	47.5	14.6	62.1	5.9	10.5	3.1	6.6	1.8	0.1	9.9	100.0	933
Home Economics												
Men	25.0	50.0	75.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	100.0	4
Women	52.2	13.0	65.2	10.9	2.6	a/	11.2	1.7	0.5	7.9	100.0	3,336
Both	52.2	13.0	65.2	10.9	2.6	a/	11.2	1.7	0.5	7.9	100.0	3,340
Industrial Arts												
Men	46.4	15.4	61.8	12.8	3.9	11.2	0.0	1.2	2.3	6.8	100.0	1,982
Women	26.1	13.0	39.1	39.1	0.0	0.0	4.4	13.0	0.0	4.4	100.0	23
Both	46.1	15.4	61.5	13.1	3.8	11.1	a/	1.4	2.3	6.8	100.0	2,005
Journalism												
Men	16.7	4.2	20.9	25.0	8.3	20.8	0.0	0.0	0.0	25.0	100.0	24
Women	27.5	2.5	30.0	30.0	2.5	0.0	10.0	0.0	0.0	27.5	100.0	40
Both	23.4	3.1	26.5	28.1	4.7	7.8	6.3	0.0	0.0	26.6	100.0	64
Library Science												
Men	78.6	0.0	78.6	0.0	10.7	7.1	0.0	0.0	0.0	3.6	100.0	28
Women	59.8	16.8	76.6	13.4	3.9	0.0	2.2	0.0	0.0	3.9	100.0	179
Both	62.3	14.5	76.8	11.6	4.8	1.0	1.9	0.0	0.0	3.9	100.0	207
Mathematics												
Men	52.3	13.0	65.3	11.8	7.2	7.9	0.0	0.6	0.4	6.8	100.0	1,252
Women	56.0	12.0	68.0	12.2	4.5	0.6	5.9	0.7	0.4	7.7	100.0	711
Both	53.7	12.6	66.3	11.9	6.2	5.3	2.1	0.7	0.4	7.1	100.0	1,963
Music												
Men	51.8	14.4	66.2	3.6	7.8	12.1	0.0	1.5	0.2	8.6	100.0	1,625

Music												
Men	51.8	14.4	66.2	3.6	7.8	12.1	0.0	1.5	0.2	8.6	100.0	1,625
Women	53.8	17.4	71.2	4.0	4.9	0.1	9.1	1.6	0.3	8.8	100.0	1,848
Both	52.9	16.0	68.9	3.8	6.2	5.7	4.8	1.6	0.3	8.7	100.0	3,473
Physical Education												
Men	48.3	11.9	60.2	7.5	5.5	15.3	0.0	0.7	0.4	10.4	100.0	4,177
Women	57.1	21.1	78.2	3.3	3.5	0.3	6.1	1.0	0.2	7.4	100.0	1,850
Both	51.0	14.7	65.7	6.2	4.9	10.7	1.9	0.8	0.3	9.5	100.0	6,027
General Science												
Men	50.8	12.3	63.1	7.9	7.3	9.8	0.0	0.5	0.2	11.2	100.0	874
Women	50.5	17.3	67.8	5.0	5.3	0.0	8.6	2.0	0.0	11.3	100.0	301
Both	50.7	13.5	64.2	7.2	6.8	7.3	2.2	0.9	0.2	11.2	100.0	1,175
Biology												
Men	49.7	8.7	58.4	7.8	12.1	9.1	0.0	1.1	0.4	11.1	100.0	899
Women	45.5	13.1	58.6	12.4	7.3	0.5	8.2	1.9	0.2	10.9	100.0	413
Both	48.4	10.1	58.5	9.2	10.6	6.4	2.6	1.4	0.3	11.0	100.0	1,312
Chemistry												
Men	43.1	10.3	53.4	19.4	11.9	8.1	0.0	0.3	0.0	6.9	100.0	360
Women	46.3	11.6	57.9	12.6	13.7	1.0	5.3	1.1	0.0	8.4	100.0	95
Both	43.7	10.6	54.3	18.0	12.3	6.6	1.1	0.4	0.0	7.3	100.0	455
Physics												
Men	38.6	7.8	46.4	17.1	8.6	7.9	0.0	0.0	0.0	20.0	100.0	140
Women	41.4	10.4	51.8	6.9	6.9	3.4	3.4	0.0	0.0	27.6	100.0	29
Both	39.0	8.3	47.3	15.4	8.3	7.1	0.6	0.0	0.0	21.3	100.0	169
Social Studies												
Men	45.8	11.3	57.1	8.8	10.7	11.0	0.0	1.4	0.3	10.7	100.0	4,760
Women	50.6	15.5	66.1	7.8	5.8	0.3	7.6	2.1	0.3	10.0	100.0	2,056
Both	47.3	12.5	59.8	8.5	9.2	7.8	2.3	1.6	0.3	10.5	100.0	6,816
Speech												
Men	42.1	8.8	50.9	11.2	11.9	12.6	0.0	0.5	2.4	10.5	100.0	411
Women	51.0	17.3	68.3	7.0	5.9	0.0	9.8	1.4	0.0	7.6	100.0	643
Both	47.5	14.0	61.5	8.6	8.3	4.9	6.0	1.0	1.0	8.7	100.0	1,054
Other												
Men	40.1	10.6	50.7	10.3	13.6	10.1	0.0	0.7	0.2	14.4	100.0	536
Women	36.5	11.0	47.5	6.5	6.3	0.1	10.3	1.4	0.1	27.8	100.0	720
Both	38.1	10.8	48.9	8.1	9.4	4.4	5.9	1.1	0.2	22.0	100.0	1,256
High school total[b]												
Men	49.1	11.0	60.1	9.7	7.9	11.1	0.0	1.1	0.6	9.5	100.0	23,678
Women	52.5	14.2	66.7	8.9	4.2	0.1	8.4	1.7	0.4	9.6	100.0	20,312
Both	50.7	12.5	63.2	9.3	6.2	6.0	3.9	1.4	0.5	9.5	100.0	43,990
Elementary total												
Men	62.7	11.5	74.2	4.3	4.1	5.7	0.0	1.4	0.5	9.8	100.0	4,250
Women	67.9	14.0	81.9	1.7	1.4	a/	5.4	1.4	0.5	7.7	100.0	28,298
Both	67.2	13.6	80.8	2.1	1.7	0.8	4.7	1.4	0.5	8.0	100.0	32,548
GRAND TOTAL												
Men	51.1	11.1	62.2	8.9	7.3	10.3	0.0	1.2	0.6	9.5	100.0	27,928
Women	61.4	14.1	75.5	4.7	2.6	0.1	6.7	1.5	0.4	8.5	100.0	48,610
Both	57.7	13.0	70.7	6.2	4.3	3.8	4.2	1.4	0.5	8.9	100.0	76,538

a Less than one-tenth of one percent. b This total is greater than the sum of the above specific teaching field reports because the California total, included here, could not be broken down by fields.

The contents of Table 8 are cause for a sober look at the resources of the school districts of the nation—their ability to compete for this most desirable group of young enthusiastic college graduates whose interest in teaching led them to choose the college programs entitling them to full certification. This stern fact stands out: the new "supply" to come from the Class of 1956—the 97,586 reported in Table 1—turned out to be only 61,674 teachers in the classroom.

Conclusion

In the field of teacher supply and demand—elementary, secondary, and higher—important changes are under way.

On the encouraging side are these facts:

1. The five-year downtrend in the number of college graduates has not only been checked but reversed.

2. The per cent of college students to make preparation for teaching has steadily increased during the past decade.

3. Standards, particularly at the elementary school level, have been improved in the face of increased enrollments; the preparation of the typical elementary school teacher has been extended by at least one full year of college attendance.

4. National, state, and local efforts have focused more widespread concern upon the welfare and progress of the schools.

5. The program for the education of teachers has been strengthened; a unified effort to recognize colleges in terms of the *quality* of their teacher education programs is well underway.

6. The effort to broaden the base of financial support was avowed by both major parties before the 1956 election.

7. Salary increases in some localities have inspired confidence that the general situation may receive serious attention.

All promising indications, however, must be weighed against these hurdles:

1. As the proportion of men in the total college enrollment increases it is not reasonable to anticipate a further increase (beyond the current 32 per cent) in the proportion of all students who choose teacher education.

2. The total number of college graduates prepared for teaching is not distributed among the grades and fields according to their respective needs.

3. Teachers' salaries are not holding their own in the sharp competition for highly trained manpower.

4. Many local districts are endangering future revenue which will be needed for operating expenses in order to provide physical facilities. The much-needed broader base of financial support has not yet been provided.

5. Too many well-prepared teachers are leaving teaching after only brief service.

6. The identification and encouragement of superior high school graduates is lagging; too many fail to enter college from lack of motivation. The continuing rise in the cost of college attendance bars many others.

7. In a few states little has been done to improve the professional status of the elementary school teacher.

8. The competition offered by colleges will inevitably sharpen.

9. The current drive to give special salary recognition to the teachers of certain subjects poses a serious threat to the morale of the entire teaching corps.

10. Local, state, and national conferences have focused attention upon the teacher shortage. Veteran school men know that it is sometimes even harder to *sustain* interest in a persistent problem than it is to *arouse* a temporary interest.

The years just ahead are likely to see the ebb and flow of both the encouraging and discouraging factors just described. The struggle to provide every youth with a competent teacher is far from won.

APPENDIX A

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, Hawaii, and Puerto Rico, by Sex and by Major Field in 1957, and by Major Field in 1956

Type of Preparation	All institutions in ALABAMA				ALASKA (Univ. of)				All institutions in ARIZONA				All institutions in ARKANSAS			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	36	628	664	637	3	11	14	7	70	347	417	436	38	367	405	485
90 semester hours	4	169	173	168	...	...	...	...	...	...	...	...	1	43	44	79
60 semester hours	...	15	15	29	...	...	...	...	...	...	...	...	2	24	26	25
30 semester hours	...	1	1	1	...	...	...	...	...	...	...	...	5	34	39	28
ELEMENTARY TOTAL	40	813	853	835	3	11	14	7	70	347	417	436	46	468	514	617
HIGH SCHOOL																
Agriculture	64	...	64	78	...	...	...	...	...	...	...	3	59	...	59	57
Art	2	19	21	15	...	...	...	...	4	4	8	9	2	1	3	8
Commerce	28	117	145	94	...	...	...	...	11	10	21	24	40	90	130	97
English	27	92	119	125	...	...	...	3	14	25	39	32	16	57	73	79
Foreign Language	10	10	20	23	...	1	1	...	7	9	16	6	...	...	...	4
Home Economics	...	156	156	167	...	3	3	1	...	14	14	16	...	102	102	113
Industrial Arts	40	1	41	35	...	...	...	...	22	...	22	31	47	4	51	36
Journalism	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Library Science	...	14	14	10	...	...	...	...	...	...	...	...	...	3	3	2
Mathematics	37	36	73	36	1	...	1	1	3	3	6	4	33	10	43	41
Music	47	43	90	56	...	...	...	...	11	6	17	21	33	28	61	50
Physical Education	194	112	306	219	...	...	...	1	49	24	73	79	144	34	178	140
General Science	40	13	53	29	...	...	...	2	5	2	7	5	16	6	22	20
Biology	19	13	32	43	1	...	1	1	6	3	9	10	18	5	23	20
Chemistry	11	7	18	11	...	...	...	...	1	1	2	2	5	2	7	2
Physics	...	...	...	2	...	...	...	...	...	...	...	34	...	...	...	...
Social Sciences	199	116	315	263	2	...	2	3	39	6	45	6	96	59	155	155
Speech	3	20	23	18	...	...	...	...	3	2	5	3	9	6	15	15
Other	2	1	3	1	...	...	...	...	...	3	3	...	9	5	14	15
HIGH SCHOOL TOTAL	723	770	1493	1225	4	4	8	12	175	112	287	286	527	412	939	854
GRAND TOTAL	763	1583	2346	2060	7	15	22	19	245	459	704	722	573	880	1453	1471

Type of Preparation	All institutions in CALIFORNIA				All institutions in COLORADO				All institutions in CONNECTICUT				All institutions in DELAWARE			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	846	3944	4790	4164	101	532	633	709	103	374	477	414	4	51	55	62
90 semester hours	...	...	...	...	8	30	38	32	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	45	81	126	82	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	2	13	15	22	...	...	...	...
ELEMENTARY TOTAL	846	3944	4790	4164	154	643	797	823	105	387	492	436	4	51	55	62
HIGH SCHOOL																
Agriculture	43	...	43	43	17	...	17	22	2	...	2	2	4	...	4	8
Art	107	147	254	274	12	29	41	38	9	3	12	12	2	3	5	3
Commerce	138	134	272	313	66	43	109	124	13	10	23	28	...	2	2	2
English	149	142	291	263	31	67	98	119	28	46	74	74	1	9	10	9
Foreign Language	71	88	159	142	12	20	32	30	4	23	27	38	1	1	2	2
Home Economics	...	256	256	225	...	52	52	63	...	20	20	15	...	7	7	5
Industrial Arts	332	5	337	228	64	...	64	98	24	...	24	20	...	...	...	...
Journalism	...	...	...	...	...	2	2	2	...	...	...	...	...	...	...	...
Library Science	2	19	21	4	...	...	...	...	9	2	11	9	...	...	...	...
Mathematics	59	18	77	92	50	13	63	50	10	19	29	37	...	...	...	3
Music	202	145	347	299	50	35	85	96	19	17	36	30	1	...	1	3
Physical Education	450	210	660	573	123	35	158	168	33	22	55	70	6	2	8	25
General Science	215	69	284	272	20	9	29	22	9	7	16	7	1	1	2	...
Biology	...	...	...	...	16	8	24	36	8	2	10	16	1	1	2	4
Chemistry	...	...	...	...	12	4	16	25	...	5	5	4	...	...	...	...
Physics	...	...	...	...	8	...	8	1	2	...	2	...	...	...	...	...
Social Sciences	488	163	651	635	118	63	181	192	51	40	91	111	4	4	8	7
Speech	107	123	230	187	5	7	12	24	...	...	...	...	...	1	1	...
Other	406	336	742	653	19	17	36	104	...	1	1	1	...	...	...	...
HIGH SCHOOL TOTAL	2769	1855	4624	4203	623	404	1027	1214	221	217	438	474	21	31	52	71
GRAND TOTAL	3615	5799	9414	8367	777	1047	1824	2037	326	604	930	910	25	82	107	133

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, Hawaii, and Puerto Rico, by Sex and by Major Field in 1957, and by Major Field in 1956

Type of Preparation	All Institutions in DIST. OF COLUMBIA				All Institutions in FLORIDA				All white institutions in GEORGIA				All Negro institutions in Georgia			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	8	128	136	162	59	664	723	801	24	315	339	369	32	240	272	395
90 semester hours	...	...	...	...	...	...	...	61	14	26	40	48	...	...	...	...
60 semester hours	...	...	...	...	12	32	44	...	10	23	33	33	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	8	128	136	162	71	696	767	862	48	364	412	450	32	240	272	395
HIGH SCHOOL																
Agriculture	...	...	...	...	34	...	34	40	28	...	28	18	...	...	...	9
Art	...	5	5	8	13	22	35	31	...	27	27	17	...	...	...	...
Commerce	...	1	1	8	17	66	83	75	19	23	42	40	3	7	10	16
English	4	23	27	23	26	96	122	96	11	79	90	66	6	33	39	42
Foreign Language	...	3	3	5	4	14	18	14	1	6	7	5	2	1	3	2
Home Economics	...	3	3	4	...	46	46	32	...	93	93	61	...	5	5	16
Industrial Arts	...	...	...	...	34	1	35	34	29	...	29	24	8	...	8	7
Journalism	...	...	...	...	...	2	2	1	...	...	...	...	...	...	...	...
Library Science	...	...	...	...	1	19	20	5	...	...	...	...	...	...	...	...
Mathematics	6	6	12	21	24	20	44	69	9	16	25	17	8	4	12	40
Music	3	18	21	16	73	62	135	72	12	23	35	22	4	5	9	15
Physical Education	15	5	20	29	171	56	227	178	58	22	80	52	5	...	5	4
General Science	13	5	18	11	37	11	48	41	13	8	21	16	13	8	21	29
Biology	3	1	4	8	12	5	17	30	2	6	8	6	...	13	13	7
Chemistry	2	...	2	...	6	...	6	11	...	1	1	...	...	...	...	...
Physics	...	...	...	...	1	...	1	...	1	7	8	2	1	...	1	1
Social Sciences	16	10	26	51	127	82	209	108	40	36	76	82	23	20	43	52
Speech	...	...	...	1	5	15	20	12	...	2	2	1	...	...	...	...
Other	3	8	11	15	2	22	24	1	...	14	14	24	...	...	...	...
HIGH SCHOOL TOTAL	65	88	153	200	607	539	1146	930	223	363	586	453	73	96	169	240
GRAND TOTAL	73	216	289	362	678	1235	1913	1792	271	727	998	903	105	336	441	635

Type of Preparation	HAWAII (Univ. of)				All institutions in IDAHO				All institutions in ILLINOIS				All institutions in INDIANA			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	17	142	159	160	22	148	170	189	356	2123	2479	2341	119	924	1043	938
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	17	142	159	160	22	148	170	189	356	2123	2479	2341	119	924	1043	938
HIGH SCHOOL																
Agriculture	2	...	2	4	16	...	16	32	78	...	78	57	44	...	44	37
Art	...	1	1	1	2	6	8	1	41	70	111	85	23	25	48	73
Commerce	...	5	5	2	7	12	19	35	213	140	353	285	78	78	156	186
English	2	9	11	6	7	19	26	26	89	210	299	272	61	167	228	184
Foreign Language	...	...	...	...	...	...	...	3	31	51	82	81	19	32	51	43
Home Economics	...	8	8	9	...	40	40	21	...	148	148	180	...	149	149	144
Industrial Arts	...	...	...	...	8	...	8	7	170	...	170	158	61	...	61	68
Journalism	...	...	...	...	...	...	...	1	2	2	4	...	...	...	...	6
Library Science	...	1	1	2	...	...	...	1	1	12	13	16	...	...	...	9
Mathematics	1	3	4	10	2	2	4	8	91	63	154	130	47	23	70	68
Music	2	...	2	6	13	11	24	28	163	158	321	323	48	68	116	114
Physical Education	2	2	4	2	42	25	67	51	344	151	495	456	324	62	386	331
General Science	1	3	4	4	8	1	9	9	27	23	50	50	30	3	33	8
Biology	...	...	...	...	6	2	8	9	75	32	107	91	43	19	62	42
Chemistry	...	...	...	...	1	...	1	...	55	20	75	54	30	7	37	29
Physics	...	...	...	...	1	1	2	...	25	2	27	11	25	2	27	4
Social Sciences	5	11	16	9	31	5	36	43	358	103	461	463	189	64	253	246
Speech	1	1	2	1	1	4	5	4	31	60	91	82	40	65	105	64
Other	...	...	...	...	5	2	7	8	21	79	100	147	58	45	103	53
HIGH SCHOOL TOTAL	16	44	60	56	150	130	280	277	1815	1324	3139	2941	1120	809	1929	1711
GRAND TOTAL	33	186	219	216	172	278	450	466	2171	3447	5618	5282	1239	1733	2972	2649

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, Hawaii, and Puerto Rico, by Sex and by Major Field in 1957, and by Major Field in 1956

Type of Preparation	All institutions in IOWA				All institutions in KANSAS				All institutions in KENTUCKY				All institutions in LOUISIANA			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	50	487	537	528	64	548	612	522	92	632	724	807	294	1151	1445	1316
90 semester hours	1	16	17	8	1	5	6	5	...	...	...	...	...	...	...	...
60 semester hours	49	1219	1268	1067	148	791	939	833	89	269	358	361	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	100	1722	1822	1603	213	1344	1557	1360	181	901	1082	1168	294	1151	1445	1316
HIGH SCHOOL																
Agriculture	77	...	77	74	45	...	45	30	62	...	62	57	32	...	32	42
Art	15	21	36	44	12	26	38	37	13	23	36	31	10	13	23	26
Commerce	66	44	110	96	57	42	99	110	56	76	132	139	51	147	198	158
English	42	103	145	132	31	72	103	93	39	94	133	112	28	104	132	150
Foreign Language	14	16	30	23	3	12	15	9	1	8	9	14	11	20	31	15
Home Economics	...	169	169	168	...	139	139	132	...	131	131	108	...	127	127	134
Industrial Arts	68	...	68	56	120	...	120	81	70	...	70	66	88	...	88	90
Journalism	6	9	15	7	...	1	1	...	...	...	...	...	1	...	1	...
Library Science	...	5	5	2	1	6	7	4	...	10	10	8	...	4	4	2
Mathematics	52	21	73	62	51	12	63	46	33	22	55	41	63	45	108	70
Music	84	81	165	181	41	67	108	124	45	56	101	100	91	56	147	103
Physical Education	186	72	258	242	135	45	180	158	140	36	176	140	207	71	278	218
General Science	62	14	76	52	28	5	33	17	5	3	8	6	45	22	67	51
Biology	32	15	47	42	31	13	44	37	39	18	57	47	19	8	27	16
Chemistry	18	2	20	11	7	4	11	3	13	2	15	13	3	4	7	5
Physics	7	2	9	7	7	...	7	6	6	1	7	4	...	...	...	1
Social Sciences	184	61	245	198	132	39	171	147	202	68	270	202	141	83	224	158
Speech	39	36	75	62	25	11	36	28	9	9	18	16	14	39	53	47
Other	21	6	27	15	2	2	4	9	...	3	3	1	...	1	1	...
HIGH SCHOOL TOTAL	973	677	1650	1474	728	496	1224	1071	733	560	1293	1105	804	744	1548	1286
GRAND TOTAL	1073	2399	3472	3077	941	1840	2781	2431	914	1461	2375	2273	1098	1895	2993	2602

Type of Preparation	All institutions in MAINE				All institutions in MARYLAND				All institutions in MASSACHUSETTS				All institutions in MICHIGAN			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	56	126	182	160	78	489	567	422	175	1214	1389	1339	281	1917	2198	2064
90 semester hours	5	10	15	24	...	...	...	...	...	...	...	...	...	16	16	10
60 semester hours	...	6	6	3	...	...	...	...	...	1	1	5	20	269	289	308
30 semester hours	4	32	36	30	...	...	...	...	...	...	...	1	...	4	4	31
ELEMENTARY TOTAL	65	174	239	217	78	489	567	422	175	1215	1390	1345	301	2206	2507	2413
HIGH SCHOOL																
Agriculture	...	...	...	...	15	...	15	12	...	...	...	...	49	2	51	50
Art	2	2	4	...	6	17	23	16	25	42	67	56	30	84	114	114
Commerce	8	2	10	26	5	7	12	18	33	77	110	99	99	100	199	152
English	10	26	36	39	23	46	69	53	54	94	148	155	112	237	349	283
Foreign Language	4	11	15	11	4	11	15	15	11	20	31	49	15	45	60	66
Home Economics	...	41	41	35	...	43	43	40	...	71	71	81	...	181	181	143
Industrial Arts	19	1	20	16	23	...	23	12	34	...	34	15	97	...	97	85
Journalism	...	...	...	...	...	...	...	...	...	...	...	4	6	2	8	6
Library Science	...	...	...	...	...	1	1	...	...	...	...	...	5	30	35	13
Mathematics	10	2	12	10	7	10	17	26	32	19	51	51	74	41	115	103
Music	...	3	3	5	25	22	47	48	50	45	95	108	87	106	193	194
Physical Education	22	4	26	19	42	29	71	47	121	108	229	251	222	81	303	283
General Science	...	...	...	1	8	14	22	14	36	10	46	40	30	19	49	46
Biology	11	4	15	13	5	6	11	10	5	13	18	15	61	35	96	76
Chemistry	4	1	5	3	1	3	4	2	2	2	4	2	22	9	31	26
Physics	...	...	...	...	...	...	...	...	4	...	4	1	8	...	8	11
Social Sciences	36	19	55	42	58	34	92	85	182	79	261	188	394	168	562	532
Speech	1	6	7	2	...	...	...	...	5	12	17	39	30	54	84	82
Other	1	...	1	7	84	40	124	97	33	10	43	32	122	99	221	136
HIGH SCHOOL TOTAL	128	122	250	229	306	283	589	495	627	602	1229	1186	1463	1293	2756	2401
GRAND TOTAL	193	296	489	446	384	772	1156	917	802	1817	2619	2531	1764	3499	5263	4814

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, Hawaii, and Puerto Rico, by Sex and by Major Field in 1957, and by Major Field in 1956

Type of Preparation	All institutions in MINNESOTA				All white institutions in MISSISSIPPI				All Negro institutions in MISSISSIPPI				All institutions in MISSOURI			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	77	757	834	858	21	374	395	387	21	220	241	229	105	920	1025	1115
90 semester hours	1	224	225	285	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	10	83	93	148
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	78	981	1059	1143	21	374	395	387	21	220	241	229	115	1003	1118	1263
HIGH SCHOOL																
Agriculture	36	...	36	32	41	...	41	45	8	...	8	5	26	...	26	16
Art	29	52	81	91	...	5	5	2	5	...	5	3	16	20	36	44
Commerce	109	62	171	119	13	112	125	112	6	26	32	35	48	73	121	126
English	118	161	279	223	15	79	94	73	6	26	32	33	42	105	147	107
Foreign Language	45	17	62	55	3	7	10	6	...	...	...	...	8	17	25	7
Home Economics	...	141	141	143	...	70	70	70	...	30	30	31	...	96	96	80
Industrial Arts	128	...	128	88	40	3	43	36	25	...	25	16	94	...	94	65
Journalism	1	...	1	...	...	1	1	6	...	...	...	...	1	3	4	4
Library Science	...	1	1	1	1	15	16	8	...	...	...	...	4	1	5	...
Mathematics	66	16	82	66	38	15	53	36	16	4	20	13	53	20	73	55
Music	109	78	187	190	16	37	53	41	8	9	17	6	59	85	144	126
Physical Education	197	79	276	208	99	28	127	121	63	10	73	46	192	67	259	220
General Science	99	14	113	39	19	8	27	25	17	7	24	27	26	10	36	31
Biology	...	...	...	53	5	7	12	7	8	5	13	6	28	11	39	45
Chemistry	...	...	...	18	4	3	7	8	1	...	1	3	11	3	14	10
Physics	...	...	...	7	1	...	1	...	...	...	...	...	5	...	5	6
Social Sciences	247	62	309	273	89	50	139	135	47	30	77	51	166	64	230	199
Speech	24	29	53	47	5	19	24	16	...	1	1	...	16	15	31	29
Other	28	11	39	29	...	...	...	...	...	...	...	...	13	8	21	10
HIGH SCHOOL TOTAL	1236	723	1959	1682	389	459	848	747	210	148	358	275	808	598	1406	1180
GRAND TOTAL	1314	1704	3018	2825	410	833	1243	1134	231	368	599	504	923	1601	2524	2443

Type of Preparation	All institutions in MONTANA				All institutions in NEBRASKA				NEVADA (Univ. of)				All institutions in NEW HAMPSHIRE			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	35	83	118	114	54	281	335	384	10	34	44	31	12	85	97	101
90 semester hours	...	...	...	...	2	2	4	2	...	...	...	...	...	...	...	...
60 semester hours	32	214	246	263	35	489	524	658	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	13	113	126	139	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	67	297	364	377	104	885	989	1183	10	34	44	31	12	85	97	101
HIGH SCHOOL																
Agriculture	15	...	15	23	25	...	25	22	2	...	2	1	...	...	...	2
Art	1	6	7	7	5	12	17	8	1	1	2	2	1	4	5	2
Commerce	12	23	35	30	36	36	72	79	...	...	...	5	...	2	2	8
English	18	18	36	35	29	56	85	84	1	3	4	7	12	19	31	22
Foreign Language	3	5	8	2	3	11	14	17	1	9	10	...	2	3	5	8
Home Economics	...	23	23	32	...	66	66	57	...	...	...	6	...	17	17	19
Industrial Arts	21	...	21	16	52	...	52	37	...	...	...	1	21	...	21	12
Journalism	...	...	...	...	...	2	2	1	...	...	...	...	...	...	...	...
Library Science	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Mathematics	19	2	21	17	31	8	39	32	1	...	1	5	10	3	13	15
Music	17	6	23	25	47	49	96	72	1	1	2	2	2	4	6	3
Physical Education	35	10	45	49	129	23	152	137	2	...	2	15	...	5	5	15
General Science	4	1	5	10	21	2	23	19	...	...	...	...	15	1	16	15
Biology	12	7	19	16	24	5	29	23	...	...	...	2	3	...	3	2
Chemistry	10	3	13	7	3	...	3	4	...	1	1	2	1	...	1	1
Physics	...	...	...	2	4	...	4	3	...	...	...	...	...	...	...	1
Social Sciences	76	13	89	45	106	21	127	124	5	7	12	10	31	12	43	33
Speech	2	5	7	4	13	13	26	22	...	...	...	1	...	...	...	...
Other	...	...	...	...	16	16	32	48	...	...	...	...	...	...	...	1
HIGH SCHOOL TOTAL	245	123	368	320	544	320	864	789	14	22	36	59	98	70	168	159
GRAND TOTAL	312	420	732	697	648	1205	1853	1972	24	56	80	90	110	155	265	260

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, Hawaii, and Puerto Rico, by Sex and by Major Field in 1957, and by Major Field in 1956

Type of Preparation	All institutions in NEW JERSEY				All institutions in NEW MEXICO				All institutions in NEW YORK				All white institutions in NORTH CAROLINA			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	86	552	638	561	60	164	224	205	621	4022	4643	4343	51	723	774	760
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	86	552	638	561	60	164	224	205	621	4022	4643	4343	51	723	774	760
HIGH SCHOOL																
Agriculture	3	...	3	3	14	...	14	7	24	...	24	22	42	...	42	37
Art	4	12	16	10	12	...	12	11	134	275	409	327	6	27	33	18
Commerce	47	39	86	99	22	30	52	40	139	246	385	317	122	125	247	190
English	14	90	104	107	19	16	35	37	156	212	368	276	85	197	282	228
Foreign Language	16	29	45	41	17	3	20	10	39	79	118	104	2	19	21	32
Home Economics	...	17	17	16	...	16	16	18	...	283	283	283	...	137	137	102
Industrial Arts	12	...	12	22	21	...	21	21	293	2	295	206	31	...	31	28
Journalism	...	...	...	...	2	...	2	1	...	...	...	...	...	...	...	...
Library Science	2	3	5	4	...	...	...	...	7	59	66	56	1	7	8	11
Mathematics	10	30	40	33	10	5	15	13	78	42	120	110	73	45	118	83
Music	17	18	35	29	12	3	15	19	295	275	570	545	30	57	87	62
Physical Education	69	37	106	94	61	12	73	60	426	249	675	590	176	77	253	158
General Science	15	15	30	26	4	2	6	9	151	70	221	167	63	19	82	55
Biology	3	3	6	9	11	3	14	8	...	...	...	...	30	14	44	49
Chemistry	2	2	4	4	...	...	...	3	...	...	...	...	...	1	1	4
Physics	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Social Sciences	84	62	146	129	49	12	61	42	314	111	425	327	111	92	203	146
Speech	...	7	7	11	2	2	4	6	36	117	153	122	...	...	...	...
Other	...	11	11	20	3	1	4	3	21	107	128	77	7	17	24	34
HIGH SCHOOL TOTAL	298	375	673	657	259	105	364	308	2113	2127	4240	3529	779	834	1613	1237
GRAND TOTAL	384	927	1311	1218	319	269	588	513	2734	6149	8883	7872	830	1557	2387	1997

Type of Preparation	All Negro institutions in NORTH CAROLINA				All institutions in NORTH DAKOTA				All institutions in OHIO				All institutions in OKLAHOMA			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	87	456	543	526	12	65	77	79	119	1482	1601	1449	75	629	704	708
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	61	431	492	477	92	829	921	804	...	...	...	...
30 semester hours	...	...	...	...	58	270	328	386	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	87	456	543	526	131	766	897	942	211	2311	2522	2253	75	629	704	708
HIGH SCHOOL																
Agriculture	19	...	19	20	18	...	18	13	...	4	4	18	72	...	72	77
Art	7	3	10	7	3	4	7	3	54	119	173	113	7	22	29	21
Commerce	7	84	91	80	41	13	54	45	79	119	198	185	81	109	190	213
English	12	31	43	36	25	22	47	44	107	242	349	282	38	98	136	92
Foreign Language	7	12	19	12	1	...	1	1	38	88	126	121	5	8	13	6
Home Economics	...	34	34	51	...	45	45	55	...	184	184	143	...	147	147	142
Industrial Arts	35	...	35	29	9	...	9	16	127	...	127	65	165	...	165	183
Journalism	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...
Library Science	1	13	14	13	3	...	3	4	...	1	1	17	...	...	...	...
Mathematics	15	16	31	23	33	4	37	22	99	56	155	146	80	16	96	70
Music	13	18	31	19	23	13	36	36	130	135	265	280	64	68	132	83
Physical Education	57	12	69	58	69	15	84	61	376	161	537	406	120	36	156	130
General Science	6	5	11	15	14	3	17	14	58	48	106	138	31	4	35	27
Biology	46	13	59	74	10	...	10	7	106	58	164	146	46	6	52	67
Chemistry	13	3	16	5	7	1	8	3	34	9	43	34	13	1	14	8
Physics	...	...	...	1	...	...	...	1	11	4	15	24	3	...	3	3
Social Sciences	45	51	96	74	57	14	71	61	343	149	492	370	190	39	229	185
Speech	...	...	...	...	1	17	18	7	44	66	110	116	26	23	49	37
Other	2	1	3	1	15	2	17	13	59	48	107	123	3	11	14	44
HIGH SCHOOL TOTAL	285	296	581	518	329	153	482	406	1665	1491	3156	2729	944	588	1532	1388
GRAND TOTAL	372	752	1124	1044	460	919	1379	1348	1876	3802	5678	4982	1019	1217	2236	2096

APPENDIX A—Continued

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, Hawaii, and Puerto Rico, by Sex and by Major Field in 1957, and by Major Field in 1956

Type of Preparation	All institutions in OREGON				All institutions in PENNSYLVANIA				All institutions in PUERTO RICO				All institutions in RHODE ISLAND			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	165	514	679	495	286	1708	1994	1814	105	280	385	364	8	120	128	109
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	290	574	864	613	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	165	514	679	495	286	1708	1994	1814	395	854	1249	977	8	120	128	109
HIGH SCHOOL																
Agriculture	12	...	12	9	58	...	58	39	...	...	...	5	1	...	1	...
Art	9	15	24	23	78	113	191	142	1	...	1	...	2	9	11	11
Commerce	11	34	45	35	181	217	398	335	1	5	6	4	11	9	20	19
English	21	45	66	41	169	246	415	379	3	4	7	13	18	14	32	38
Foreign Language	8	9	17	12	58	77	135	141	...	4	4	27	3	...	3	3
Home Economics	...	52	52	56	...	221	221	227	...	77	77	37	...	9	9	11
Industrial Arts	24	...	24	10	159	2	161	120	5	...	5	14	...	...	...	...
Journalism	...	1	1	1	1	1	2	...	...	...	...	...	...	...	...	...
Library Science	...	1	1	...	5	26	31	32	...	...	...	...	...	...	...	...
Mathematics	22	4	26	25	170	91	261	212	...	...	...	1	1	4	5	7
Music	31	40	71	58	155	181	336	322	...	...	...	...	3	3	6	...
Physical Education	82	28	110	111	237	167	404	338	4	1	5	11	14	...	14	6
General Science	27	9	36	10	125	24	149	144	3	...	3	9	8	2	10	7
Biology	32	9	41	28	136	50	186	165	1	1	2	2	1	1	2	3
Chemistry	13	...	13	12	51	24	75	61	...	...	...	...	3	...	3	...
Physics	4	...	4	4	29	1	24	26	1	...	1	...	...	...	...	...
Social Sciences	78	25	103	90	642	186	828	685	29	26	55	58	38	6	44	27
Speech	4	5	9	14	16	33	49	43	...	...	...	...	...	...	...	...
Other	...	...	...	6	130	77	207	224	93	57	150	2	...	...	...	...
HIGH SCHOOL TOTAL	378	277	655	545	2394	1737	4131	3635	141	175	316	183	103	57	160	132
GRAND TOTAL	543	791	1334	1040	2680	3445	6125	5449	536	1029	1565	1160	111	177	288	241

Type of Preparation	All white institutions in SOUTH CAROLINA				All Negro institutions in SOUTH CAROLINA				All institutions in SOUTH DAKOTA				All institutions in TENNESSEE			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	18	252	270	270	31	256	287	344	11	92	103	84	83	632	715	729
90 semester hours	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	20	388	408	408	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	21	221	242	258	...	...	...	...
ELEMENTARY TOTAL	18	252	270	270	31	256	287	344	52	703	755	750	83	632	715	729
HIGH SCHOOL																
Agriculture	19	...	19	16	24	...	24	28	28	...	28	21	51	...	51	26
Art	...	8	8	10	2	...	2	3	2	4	6	2	3	17	20	14
Commerce	2	58	60	74	19	36	55	34	24	21	45	34	75	135	210	182
English	19	92	111	108	5	35	40	23	10	31	41	42	31	157	188	191
Foreign Language	2	21	23	12	...	1	1	5	...	4	4	...	7	19	26	24
Home Economics	...	62	62	40	...	26	26	23	...	44	44	39	...	140	140	147
Industrial Arts	6	...	6	12	39	...	39	17	28	...	28	19	78	...	78	67
Journalism	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Library Science	...	2	2	2	...	9	9	10	...	...	...	...	...	6	6	1
Mathematics	15	12	27	26	21	20	41	25	15	2	17	20	44	25	69	68
Music	12	49	61	47	9	12	21	9	17	25	42	30	54	60	114	98
Physical Education	37	18	55	81	42	13	55	37	62	8	70	63	241	73	314	251
General Science	15	6	21	21	1	1	2	5	15	6	21	17	35	18	53	58
Biology	10	23	33	14	41	18	59	29	9	2	11	5	43	25	68	68
Chemistry	7	1	8	8	17	2	19	10	9	2	11	7	17	4	21	8
Physics	2	...	2	...	...	...	...	...	...	...	...	...	2	...	2	1
Social Sciences	59	44	103	85	47	25	72	59	66	19	85	66	204	99	303	314
Speech	2	6	8	18	...	...	...	...	12	3	15	14	13	8	21	14
Other	2	1	3	...	...	...	...	...	...	...	...	...	6	24	30	24
HIGH SCHOOL TOTAL	209	403	612	574	257	198	455	317	297	171	468	379	904	810	1714	1556
GRAND TOTAL	227	655	882	844	288	454	742	661	349	874	1223	1129	987	1442	2429	2285

APPENDIX A—Concluded

Total Number of College and University Students Completing Certificate Requirements in the 48 States, Alaska, District of Columbia, Hawaii, and Puerto Rico, by Sex and by Major Field in 1957, and by Major Field in 1956

Type of Preparation	All institutions in TEXAS				All institutions in UTAH				All institutions in VERMONT				All institutions in VIRGINIA			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	137	1771	1908	1918	105	535	640	555	40	112	152	144	35	533	568	596
90 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
60 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30 semester hours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	137	1771	1908	1918	105	535	640	555	40	112	152	144	35	533	568	596
HIGH SCHOOL																
Agriculture	310	...	310	240	23	...	23	7	4	...	4	4	35	...	35	33
Art	35	73	108	92	14	13	27	25	...	...	...	1	7	28	35	33
Commerce	283	439	722	549	10	46	56	50	2	3	5	6	32	97	129	128
English	105	324	429	433	18	48	66	57	5	10	15	24	35	85	120	126
Foreign Language	11	52	63	60	9	8	17	12	2	4	6	10	6	17	23	21
Home Economics	...	363	363	332	...	89	89	57	...	12	12	10	...	77	77	90
Industrial Arts	192	7	199	148	44	...	44	34	...	...	...	...	40	3	43	27
Journalism	16	27	43	29	...	...	...	...	...	...	...	...	...	...	...	...
Library Science	...	26	26	21	...	1	1	1	...	...	...	...	...	10	10	7
Mathematics	120	75	195	198	16	3	19	12	6	...	6	3	15	34	49	47
Music	174	212	386	354	29	8	37	30	...	1	1	4	24	59	83	63
Physical Education	558	235	793	686	81	50	131	115	1	...	1	...	58	65	123	94
General Science	85	13	98	73	28	1	29	26	...	...	...	3	29	7	36	35
Biology	110	41	151	110	21	...	21	20	3	2	5	1	21	20	41	33
Chemistry	33	11	44	35	4	...	4	4	4	3	7	4	14	10	24	19
Physics	7	3	10	5	3	...	3	2	...	...	...	...	8	...	8	12
Social Sciences	439	252	691	645	103	14	117	103	25	10	35	27	120	94	214	194
Speech	47	95	142	130	14	20	34	34	...	...	...	...	3	10	13	14
Other	3	8	11	28	10	4	14	31	3	5	8	11	...	...	...	...
HIGH SCHOOL TOTAL	2528	2256	4784	4168	427	305	732	620	55	50	105	108	447	616	1063	976
GRAND TOTAL	2665	4027	6692	6086	532	840	1372	1175	95	162	257	252	482	1149	1631	1572

Type of Preparation	All institutions in WASHINGTON				All institutions in WEST VIRGINIA				All institutions in WISCONSIN				All institutions in WYOMING			
	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956	Men 1957	Women 1957	Total 1957	Total 1956
ELEMENTARY																
120 semester hours	220	589	809	767	36	280	316	318	176	904	1080	988	4	35	39	29
90 semester hours	...	...	...	...	3	43	46	49	...	48	48	35	...	2	2	...
60 semester hours	...	...	...	...	7	79	86	89	151	641	792	859	14	65	79	54
30 semester hours	...	...	...	...	19	25	44	22	...	...	...	...	...	...	...	...
ELEMENTARY TOTAL	220	589	809	767	65	427	492	478	327	1593	1920	1882	18	102	120	83
HIGH SCHOOL																
Agriculture	9	...	9	8	16	...	16	27	90	...	90	65	14	...	14	13
Art	34	27	61	52	12	17	29	23	37	58	95	70	1	...	1	3
Commerce	40	32	72	39	34	53	87	78	46	48	94	111	2	10	12	6
English	50	62	112	98	22	70	92	74	73	144	217	169	...	1	1	7
Foreign Language	5	17	22	22	3	12	15	16	10	30	40	35	1	1	2	...
Home Economics	...	102	102	86	...	63	63	77	...	130	130	122	...	17	17	17
Industrial Arts	84	...	84	65	36	...	36	24	141	...	141	86	7	...	7	4
Journalism	2	4	6	4	...	...	...	7	...	1	1	6	...	...	...	...
Library Science	...	...	...	...	...	3	3	3	...	2	2	1	...	...	...	...
Mathematics	34	8	42	27	27	8	35	27	52	21	73	65	2	...	2	6
Music	43	34	77	65	32	35	67	60	57	54	111	101	4	2	6	5
Physical Education	130	65	195	118	153	54	207	194	83	65	148	108	22	1	23	30
General Science	38	11	49	30	14	1	15	11	76	14	90	70	2	...	2	1
Biology	20	10	30	29	32	9	41	35	56	15	71	70	2	...	2	1
Chemistry	12	5	17	15	2	1	3	1	25	6	31	19	...	...	...	1
Physics	8	1	9	5	5	6	11	9	8	3	11	7	...	...	...	...
Social Sciences	220	75	295	201	65	32	97	77	242	73	315	216	9	3	12	6
Speech	19	19	38	23	3	5	8	4	18	43	61	91	...	...	...	...
Other	17	19	36	25	6	6	12	21	19	9	28	23	1	...	1	...
HIGH SCHOOL TOTAL	765	491	1256	912	462	375	837	768	1033	716	1749	1435	67	35	102	100
GRAND TOTAL	985	1080	2065	1679	527	802	1329	1246	1360	2309	3669	3317	85	137	222	183

APPENDIX B

TABLE 4 in Part II of this report is a composite picture of the demand for teachers in September 1956, as that demand was met by the employment of persons not engaged in teaching in 1955-56. Appendix B consists of the individual state tables.

These data are assembled in the belief that they can be used to strengthen the services of all who counsel students, particularly in the late high school and early college years. At that time students finalize their decisions to prepare for teaching. And many of them make the further decision to concentrate in a certain field or subject without the needed information about the nature or the frequency of the opportunities which they may rightfully expect when they graduate. Generally the overview of these youthful, inexperienced youngsters is limited, and often their impetuous readiness for quick decisions leads to ill-advised choices.

The nature of the teaching positions open to new teachers varies widely from state to state. These "demand" tables bring out many of the differences. In some states, for example, the prospective high school teacher can reasonably expect to give full time to his major subject, and he is not likely to be required to teach in a second field. In other states this might be a tragic miscalculation. Thus the state table in this appendix might contradict the national picture shown in composite Table 4. In like manner the ratio of number preparing in a given field to the number of vacancies in that field varies widely from state to state.

Careful study of these tables for the current and previous years will provide the counselor with a view of conditions in his own state which is not easy to obtain elsewhere.

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE I. Demand for Teachers—Alabama

MAJOR	MINOR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	ALABAMA 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1	AGRICULTURE	9									1				2	1			3			16	78
2	ART	1	13		2					1	1				2				1			21	15
3	COMMERCE	6		49	3					1									7			66	94
4	ENGLISH	18	1	3	124	9			3	6	14	1		4	5				56	3	1	248	125
5	FOREIGN LANGUAGE				3	4	1															8	29
6	HOME ECONOMICS			2	4		59				1				7							73	167
7	INDUSTRIAL ARTS							13			2		1									16	35
8	JOURNALISM																						
9	LIBRARY SCIENCE	3	1		4					24												32	10
10	MATHEMATICS	6	1	1	10					2	60	1	4	1	39	2		1	14			140	36
11	MUSIC	7		1	3					1	1	47			1				2			61	56
12	PHYS. ED.—MEN	5			3						14		35	1	13	3	1		16		1	92	152
13	PHYS. ED.—WOMEN	6	2		6						2			44	3	4			5			72	67
14	GENERAL SCIENCE	10		1	6		1				15		6	7	56	5	3	2	8		1	121	29
15	BIOLOGY	2			1							1			1	8	4	1				18	43
16	CHEMISTRY	1														3	6	1				12	11
17	PHYSICS												1				1		1			3	2
18	SOCIAL STUDIES	12		4	29	2		1		1	14	4	11	8	13	1	1		67	2	2	172	263
19	SPEECH					1													2	4	1	8	18
20	OTHER	10									1	1								2	47	61	1
21	HIGH SCHOOL TOTAL																					1212	1225
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM		22		LOWER GRADES		467		UPPER GRADES		417							906	637

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE II. Demand for Teachers—Alaska

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	ALASKA 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1	AGRICULTURE																					
2	ART																					
3	COMMERCE			2																	2	
4	ENGLISH				3								1					1			5	3
5	FOREIGN LANGUAGE					1															1	
6	HOME ECONOMICS						3							1							4	1
7	INDUSTRIAL ARTS												1					1			2	
8	JOURNALISM																					
9	LIBRARY SCIENCE									1		1									2	
10	MATHEMATICS										2				1			1			5	1
11	MUSIC											4									4	
12	PHYS. ED.—MEN																					1
13	PHYS. ED.—WOMEN																					
14	GENERAL SCIENCE												2		2	2					6	2
15	BIOLOGY															N/A					2	1
16	CHEMISTRY																					
17	PHYSICS																					
18	SOCIAL STUDIES				1													1			2	1
19	SPEECH																					
20	OTHER																			1	1	
21	HIGH SCHOOL TOTAL																				36	12
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM		8		LOWER GRADES		109		UPPER GRADES		91		SPECIAL EDUCATION			10	218	7

TABLE III. Demand for Teachers—Arizona

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	ARIZONA 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1	AGRICULTURE	5						1							2						8	3
2	ART		3					3										1		1	8	9
3	COMMERCE			15					1									2		3	21	24
4	ENGLISH				17	2			2	1	2		1	1				3	5	1	35	32
5	FOREIGN LANGUAGE				2	3					1							1			7	6
6	HOME ECONOMICS			1			12						1		1	1					16	16
7	INDUSTRIAL ARTS							9													9	31
8	JOURNALISM								1												1	1
9	LIBRARY SCIENCE									1											1	
10	MATHEMATICS										8		2		1						11	4
11	MUSIC				1							4			1						6	21
12	PHYS. ED.—MEN				1								13					2			16	54
13	PHYS. ED.—WOMEN											6						1		1	8	25
14	GENERAL SCIENCE												1		2	2	1				6	5
15	BIOLOGY	1											1			4	1	1		1	9	10
16	CHEMISTRY															1					1	2
17	PHYSICS																					
18	SOCIAL STUDIES			2	2	2							2			1		1	5	1	16	34
19	SPEECH																					6
20	OTHER				1		1								1				2	13	18	3
21	HIGH SCHOOL TOTAL																				197	286
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM				LOWER GRADES				UPPER GRADES								738	436

TABLE IV. Demand for Teachers—Arkansas

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	ARKANSAS 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1	AGRICULTURE	20																			20	57
2	ART		1								1										2	8
3	COMMERCE			35	12						3		1	1	3			7			62	97
4	ENGLISH			3	45	2			5	5	2				2			21	8	1	94	79
5	FOREIGN LANGUAGE																					6
6	HOME ECONOMICS			1			34								1			1			37	113
7	INDUSTRIAL ARTS							4										2			6	36
8	JOURNALISM																	2			2	
9	LIBRARY SCIENCE				1													5			6	2
10	MATHEMATICS			5	5						27		9	1	9	1	1	1	11		70	41
11	MUSIC				1						1	21			1				4		28	50
12	PHYS. ED.—MEN			2	1						10		21	1	8				27		70	106
13	PHYS. ED.—WOMEN				1									7	4	1			2		15	34
14	GENERAL SCIENCE				3	1					6		6	2	23	4			13		58	20
15	BIOLOGY										1		1	1	1	1	1	2		1	9	20
16	CHEMISTRY															2	1				3	2
17	PHYSICS																					
18	SOCIAL STUDIES			1	7					2	9	1	5	1	4	2			41	4	77	155
19	SPEECH				3														1		4	15
20	OTHER										1				1					4	6	15
21	HIGH SCHOOL TOTAL																				569	856
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM				LOWER GRADES				UPPER GRADES								730	485

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE V. Demand for Teachers—Colorado

MAJOR	MINOR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	COLORADO 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (NEW) SUPPLY
1	AGRICULTURE	9																				9	22
2	ART	6	4		2														2			14	38
3	COMMERCE			25	2		1					1			1				2			32	124
4	ENGLISH		1	3	43	2			4	1			1	1	1				21	4		82	119
5	FOREIGN LANGUAGE				2	1					1			1	1				2			8	30
6	HOME ECONOMICS				1		21							1	1							24	63
7	INDUSTRIAL ARTS			1	1			32					3		1							38	98
8	JOURNALISM																					0	2
9	LIBRARY SCIENCE									3												3	
10	MATHEMATICS				1	1		4			26		4	1	8	1			5			51	50
11	MUSIC				1							40	1						2		1	45	96
12	PHYS. ED.—MEN		1		1			1			2	1	4	20	2	2			2			36	126
13	PHYS. ED.—WOMEN		1	1							2		4	6	2				2			18	42
14	GENERAL SCIENCE				1						15		5	2	20				1			44	22
15	BIOLOGY	1									1		2			3					1	8	36
16	CHEMISTRY														1	1						2	20
17	PHYSICS																					0	2
18	SOCIAL STUDIES		2	1	4	2					1		10	5	2				33		1	61	192
19	SPEECH																			3		3	22
20	OTHER				1								1								29	31	102
21	HIGH SCHOOL TOTAL																					509	1214
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM			LOWER GRADES					UPPER GRADES									590	709

TABLE VI. Demand for Teachers—Connecticut

MAJOR	MINOR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	CONNECTICUT 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (NEW) SUPPLY
1	AGRICULTURE																						2
2	ART		18																			18	12
3	COMMERCE			35							1											36	28
4	ENGLISH				65	3					1								26			95	74
5	FOREIGN LANGUAGE				8	13													7			28	38
6	HOME ECONOMICS						23								1							24	15
7	INDUSTRIAL ARTS							17					1									18	20
8	JOURNALISM																						
9	LIBRARY SCIENCE					1				3												4	9
10	MATHEMATICS			1	2					1	41				18			1	3			67	32
11	MUSIC											19										19	30
12	PHYS. ED.—MEN												17									17	41
13	PHYS. ED.—WOMEN													18								18	29
14	GENERAL SCIENCE						2				9		2	1	19	5			1		1	40	7
15	BIOLOGY														3	3	1					7	16
16	CHEMISTRY																	1				1	4
17	PHYSICS																						
18	SOCIAL STUDIES				6	3						1			2				47			59	111
19	SPEECH																						
20	OTHER																				30	30	1
21	HIGH SCHOOL TOTAL																					481	474
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM			LOWER GRADES					UPPER GRADES									1201	417

TABLE VII. Demand for Teachers—Delaware

MAJOR	MINOR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	DELAWARE 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (NEW) SUPPLY
1	AGRICULTURE	2																				2	8
2	ART		7																			7	3
3	COMMERCE			1															5			6	2
4	ENGLISH				18	3																21	9
5	FOREIGN LANGUAGE				1	1																2	2
6	HOME ECONOMICS						9															9	5
7	INDUSTRIAL ARTS							7														7	
8	JOURNALISM																						
9	LIBRARY SCIENCE									1												1	
10	MATHEMATICS										12								1			13	3
11	MUSIC											9										9	3
12	PHYS. ED.—MEN												4									4	14
13	PHYS. ED.—WOMEN													3					1			4	11
14	GENERAL SCIENCE										1				3							4	
15	BIOLOGY																						4
16	CHEMISTRY																						
17	PHYSICS																						
18	SOCIAL STUDIES				2						1								7			10	7
19	SPEECH																						
20	OTHER													1							3	4	
21	HIGH SCHOOL TOTAL																					103	71
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	2		LOWER GRADES			98		UPPER GRADES		76		SPECIAL EDUCATION			13		189	62

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE VIII. Demand for Teachers—District of Columbia

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
DISTRICT OF COLUMBIA 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1 AGRICULTURE																						
2 ART		2																			2	8
3 COMMERCE			2	1																	3	8
4 ENGLISH				10	1													6		1	18	29
5 FOREIGN LANGUAGE																						5
6 HOME ECONOMICS						1															1	4
7 INDUSTRIAL ARTS							3														3	
8 JOURNALISM																						
9 LIBRARY SCIENCE																						
10 MATHEMATICS					1					5				2		1		1			10	21
11 MUSIC											4	1									5	16
12 PHYS. ED.—MEN												1						1			2	24
13 PHYS. ED.—WOMEN													2								2	5
14 GENERAL SCIENCE					1					6				4							11	11
15 BIOLOGY															1						1	8
16 CHEMISTRY																						
17 PHYSICS																						
18 SOCIAL STUDIES					2													6		2	10	51
19 SPEECH																						1
20 OTHER			1							1										16	18	15
21 HIGH SCHOOL TOTAL																					86	200
22 ELEMENTARY SCHOOL TOTAL				ONE ROOM			LOWER GRADES				UPPER GRADES										213	162

TABLE IX. Demand for Teachers—Hawaii

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
HAWAII 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1 AGRICULTURE	1																				1	4
2 ART		6																			6	1
3 COMMERCE			5																		5	2
4 ENGLISH				50																	50	6
5 FOREIGN LANGUAGE					1																1	
6 HOME ECONOMICS						13															13	9
7 INDUSTRIAL ARTS							9														9	
8 JOURNALISM								0														
9 LIBRARY SCIENCE									4												4	2
10 MATHEMATICS										20											20	10
11 MUSIC											13										13	6
12 PHYS. ED.—MEN												9									9	1
13 PHYS. ED.—WOMEN													8								8	1
14 GENERAL SCIENCE														12							12	4
15 BIOLOGY																						
16 CHEMISTRY																						
17 PHYSICS																						
18 SOCIAL STUDIES																		9			9	9
19 SPEECH																			2		2	1
20 OTHER																				24	24	
21 HIGH SCHOOL TOTAL																					186	56
22 ELEMENTARY SCHOOL TOTAL				ONE ROOM			LOWER GRADES				UPPER GRADES										294	160

In Hawaii it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in the composite table.

TABLE X. Demand for Teachers—Illinois

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
ILLINOIS 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1 AGRICULTURE	23																				23	57
2 ART		30									24										54	85
3 COMMERCE			75	8						42				7							132	286
4 ENGLISH				80	35														28	8	151	272
5 FOREIGN LANGUAGE				8	22																30	81
6 HOME ECONOMICS		4				108															112	180
7 INDUSTRIAL ARTS							50			8				7							65	158
8 JOURNALISM																						
9 LIBRARY SCIENCE				4					3												7	16
10 MATHEMATICS										43		15		12		6	5				81	130
11 MUSIC		37		10							63										110	323
12 PHYS. ED.—MEN										36		45		30				9			120	311
13 PHYS. ED.—WOMEN			15								10		30					35			90	145
14 GENERAL SCIENCE										3				6				8			17	50
15 BIOLOGY												8		6	25						39	91
16 CHEMISTRY														2		12	8				22	54
17 PHYSICS																4	3				7	13
18 SOCIAL STUDIES				30						25			9	9				110			183	463
19 SPEECH				14															10	22	46	82
20 OTHER																			8	52	60	142
21 HIGH SCHOOL TOTAL																					1349	2903
22 ELEMENTARY SCHOOL TOTAL				ONE ROOM		75	LOWER GRADES			745	UPPER GRADES			501							1321	2343

This is an incomplete report of the demand for new teachers in Illinois, and thus the figures shown in this table are not included in the composite table.

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XI. Demand for Teachers—Indiana

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	INDIANA 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1	AGRICULTURE	28	1								1			1	3	14	2	1				51	37
2	ART		43		3					2		2	1						1			52	73
3	COMMERCE		1	80	12	3				1	5		6	11	1				10	1	4	135	186
4	ENGLISH	2		4	125	26			4	15	4		3	9	1	2		1	24	11	2	235	184
5	FOREIGN LANGUAGE				6	14	3					1		1			1		1			27	45
6	HOME ECONOMICS	2		1	5		85				1		3	22	5	19	2	2				147	144
7	INDUSTRIAL ARTS							56			4		15		3	1			4		3	86	68
8	JOURNALISM				1				1													2	6
9	LIBRARY SCIENCE				2					13									2			17	9
10	MATHEMATICS			2	1						97		6	1	6	3	6	20	5			107	68
11	MUSIC		6	1	20	1						121				1			1			151	114
12	PHYS. ED.—MEN			6	1			1			8		30	1	5	5	1		24		3	85	275
13	PHYS. ED.—WOMEN			5	3		1					2	3	36	3	2			1	1	3	60	56
14	GENERAL SCIENCE				1						3		2		11	2		1				20	8
15	BIOLOGY	1			2					1	5		2	1	7	9	4	1	2		2	37	42
16	CHEMISTRY										2				1	1	3	4	2			13	29
17	PHYSICS										2						1	6				9	4
18	SOCIAL STUDIES			4	12	3		1			6	1	27	3	1	4			53	2	4	121	246
19	SPEECH				2															11		13	64
20	OTHER			1							3		1						3		21	29	53
21	HIGH SCHOOL TOTAL																					1397	1711
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	16		LOWER GRADES	1089			UPPER GRADES	709		SPECIAL EDUCATION	47							1795	918

TABLE XII. Demand for Teachers—Kansas

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	KANSAS 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1	AGRICULTURE	21																			21	30
2	ART		13	1		1												1			16	37
3	COMMERCE			98	3		4				1							9	1		116	110
4	ENGLISH			1	76	6	4		5	5	1		3			2			20	11	2	136	93
5	FOREIGN LANGUAGE				2	11													1			14	9
6	HOME ECONOMICS		1	1	8		72			1				5	3	1		1	4			97	132
7	INDUSTRIAL ARTS	1	1		1			36			6		6		2	4			2		4	63	81
8	JOURNALISM				4														1			5	
9	LIBRARY SCIENCE				1					2												3	4
10	MATHEMATICS			1	1			3			41	1	1		7	1	3	2	2	1	1	65	46
11	MUSIC				3						3	68							2			76	124
12	PHYS. ED.—MEN	1		2	1			6			2		9		5	3			17	1	2	48	116
13	PHYS. ED.—WOMEN									1	1			21	2	2			1		2	30	42
14	GENERAL SCIENCE			2				1			7		5		5	8	1	6	1			36	17
15	BIOLOGY			1	1		1			1	1				3	4	6	2	5		1	26	37
16	CHEMISTRY														2	4	1	1	1			9	3
17	PHYSICS										4					1	1	1				7	6
18	SOCIAL STUDIES			2	8	1	1	4			2	1	3	1	2	4		3	40	1	4	77	147
19	SPEECH				4						2								1	4		11	28
20	OTHER															1			2		9	12	9
21	HIGH SCHOOL TOTAL																					868	1771
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	210		LOWER GRADES	695			UPPER GRADES	661		SPECIAL EDUCATION	173							1737	522

TABLE XIII. Demand for Teachers—Kentucky

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	KENTUCKY 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL (1956) SUPPLY
1	AGRICULTURE	14																			14	57
2	ART		12																		12	31
3	COMMERCE		1	76	1							1		1							80	139
4	ENGLISH				126	1			1		1		2		1	4			19	4	1	158	112
5	FOREIGN LANGUAGE					10																10	14
6	HOME ECONOMICS				1		66								1	1						69	108
7	INDUSTRIAL ARTS							31											1			32	66
8	JOURNALISM				1																	1	0
9	LIBRARY SCIENCE				1					21	1								1			24	8
10	MATHEMATICS			2				1			80	1			2		2	1	2		1	92	61
11	MUSIC				1							81	1	3							1	87	100
12	PHYS. ED.—MEN			3							2	1	50	3	2	1			6		1	69	99
13	PHYS. ED.—WOMEN										1			24								25	45
14	GENERAL SCIENCE		1								3		2		33	7	1		1		3	51	6
15	BIOLOGY				1								1		3	12	2		1			20	47
16	CHEMISTRY										1				1	2	12	1				17	13
17	PHYSICS										1				1	2		5				9	4
18	SOCIAL STUDIES			4	7	1					2	1	4		2				95	3	1	120	202
19	SPEECH				3				1											4		8	16
20	OTHER												2		3				1	1	43	50	1
21	HIGH SCHOOL TOTAL																					948	1105
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	311		LOWER GRADES	659			UPPER GRADES	558		SPECIAL EDUCATION	40							1568	807

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XIV. Demand for Teachers—Maine

MAJOR	MINOR: MAINE 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	2													1							3	
2	ART		1																			1	
3	COMMERCE			31							1											32	26
4	ENGLISH		1	1	31	6									3	1			11		1	55	39
5	FOREIGN LANGUAGE				3	7					1											11	11
6	HOME ECONOMICS						29															29	35
7	INDUSTRIAL ARTS							8														8	16
8	JOURNALISM																						
9	LIBRARY SCIENCE																						
10	MATHEMATICS										6				6	1			3			16	10
11	MUSIC					1						9			2	1					1	10	5
12	PHYS. ED.—MEN												8		2	1					1	12	19
13	PHYS. ED.—WOMEN												1	1					1		1	4	1
14	GENERAL SCIENCE				1						8		1		9	1			1		3	24	13
15	BIOLOGY					1									3	2						6	3
16	CHEMISTRY													1				1				2	
17	PHYSICS														1			1				2	42
18	SOCIAL STUDIES			1	8	2					3				4				23		4	45	2
19	SPEECH				1																	1	
20	OTHER					1									1						10	12	7
21	HIGH SCHOOL TOTAL																					273	229
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM		31		LOWER GRADES		250		UPPER GRADES		247							528	217

TABLE XV. Demand for Teachers—Maryland

MAJOR	MINOR: MARYLAND 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	4													1							5	12
2	ART		53		1																	54	16
3	COMMERCE			39							5											44	18
4	ENGLISH			2	81	5		1	1	1	2	2		1	3				33	1	2	135	53
5	FOREIGN LANGUAGE				11	9													3			23	15
6	HOME ECONOMICS		2				51								2	1					1	57	40
7	INDUSTRIAL ARTS				1			34			3		1									39	12
8	JOURNALISM								1													1	
9	LIBRARY SCIENCE				2					18												20	
10	MATHEMATICS				2						82				34	1	1		5			125	26
11	MUSIC				4						1	53										58	48
12	PHYS. ED.—MEN										2		21		4							27	22
13	PHYS. ED.—WOMEN				3						3			43	3	1			2			55	25
14	GENERAL SCIENCE			1							13	1		2	49	3		1	1		3	74	14
15	BIOLOGY				1			1			1				9	8	1					15	10
16	CHEMISTRY														1			2				3	2
17	PHYSICS														2			1				3	
18	SOCIAL STUDIES			1	14	1				4	1	1		2	3				78		2	107	85
19	SPEECH				1															1	1	3	
20	OTHER			1	9	2					21				4	1			3		170	211	97
21	HIGH SCHOOL TOTAL																					1059	495
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM		4		LOWER GRADES		590		UPPER GRADES		570	SPECIAL EDUCATION				132		1296	422

TABLE XVI. Demand for Teachers—Minnesota

MAJOR	MINOR: MINNESOTA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	17																			1	18	32
2	ART		33		2									1					1			37	91
3	COMMERCE			56	3	2						1		3					3		1	69	119
4	ENGLISH		3	5	110	9				16	2	3		6	3			1	52	22		232	223
5	FOREIGN LANGUAGE				2	2								1								3	55
6	HOME ECONOMICS		1		2		86							6	5				1			101	143
7	INDUSTRIAL ARTS				1			45			9		2	1	3				3		1	65	83
8	JOURNALISM																						
9	LIBRARY SCIENCE				3					8									1			12	1
10	MATHEMATICS				3						55		1	2	13		3	9	1		1	88	66
11	MUSIC			2	5					1	1	55				1						65	180
12	PHYS. ED.—MEN			2							3		13		5	2			11			36	125
13	PHYS. ED.—WOMEN		1	1	3		1				1			31	5	2			4			49	83
14	GENERAL SCIENCE			1	1						16		3	1	18	10	3	3	1			57	39
15	BIOLOGY										2		1	1	10	6	2	3				25	53
16	CHEMISTRY										5					2						7	18
17	PHYSICS																						
18	SOCIAL STUDIES		1	4	17	1				1	6	5	17	2	7	1			68	2	4	136	272
19	SPEECH				4						1									4		9	47
20	OTHER																				3	3	29
21	HIGH SCHOOL TOTAL																					1012	1660
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM		90		LOWER GRADES		426		UPPER GRADES		361							877	358

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XVII. Demand for Teachers—Mississippi

MAJOR	MINOR — MISSISSIPPI 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (100%) SUPPLY
1	AGRICULTURE	24																				24	50
2	ART		3																			3	5
3	COMMERCE			66																		66	147
4	ENGLISH				60																	60	106
5	FOREIGN LANGUAGE					5																5	6
6	HOME ECONOMICS						40															40	101
7	INDUSTRIAL ARTS							14														14	52
8	JOURNALISM								0														6
9	LIBRARY SCIENCE									7												7	8
10	MATHEMATICS										61											61	49
11	MUSIC											43										43	47
12	PHYS. ED.—MEN												33									33	130
13	PHYS. ED.—WOMEN													11								11	37
14	GENERAL SCIENCE														82							82	52
15	BIOLOGY																						13
16	CHEMISTRY																						11
17	PHYSICS																						
18	SOCIAL STUDIES																		92			92	186
19	SPEECH																			5		5	16
20	OTHER																				32	32	
21	HIGH SCHOOL TOTAL																					578	1022
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM				LOWER GRADES				UPPER GRADES									416	616

In Mississippi it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in the composite table.

TABLE XVIII. Demand for Teachers—Missouri

MAJOR	MINOR — MISSOURI 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (100%) SUPPLY
1	AGRICULTURE	30											3		3							36	16
2	ART		57		1			1			1			1					2			63	44
3	COMMERCE			144	7		1	1	1		2								4		1	161	126
4	ENGLISH		2	8	324	13	2		8	1	7	5			1				41	23		435	107
5	FOREIGN LANGUAGE		1	3	10	40			1										3			58	7
6	HOME ECONOMICS		6		2		136								4	3			1			152	80
7	INDUSTRIAL ARTS	2		2				103			4		10		2				3		4	130	65
8	JOURNALISM				1				7													8	4
9	LIBRARY SCIENCE				1					12												13	
10	MATHEMATICS	1		4	1			1			194		3		14		2	1	5		1	227	55
11	MUSIC		1	1	2		1					131								1		137	126
12	PHYS. ED.—MEN			4				4			4		117		9	5			15		6	164	157
13	PHYS. ED.—WOMEN			1										52	2				1			56	63
14	GENERAL SCIENCE				2						17		1	1	141	12	3	3	10		1	191	31
15	BIOLOGY										4		2		8	45			1		3	63	45
16	CHEMISTRY														5		29	3				37	10
17	PHYSICS										3				3		1	21			1	29	6
18	SOCIAL STUDIES			2	20	1			2	1	7	3	13		6	2			306	1	6	370	199
19	SPEECH				4														3	34	1	42	29
20	OTHER				2			1					2						3		131	139	10
21	HIGH SCHOOL TOTAL																					2511	1180
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	369			LOWER GRADES	837			UPPER GRADES	730								1936	1115

TABLE XIX. Demand for Teachers—Montana

MAJOR	MINOR — MONTANA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (100%) SUPPLY
1	AGRICULTURE	1						2							1	2						6	23
2	ART		4																1			5	7
3	COMMERCE			13	2						1			2					1			19	30
4	ENGLISH			2	21	2				1		1	1						3	1		32	35
5	FOREIGN LANGUAGE																		1			1	2
6	HOME ECONOMICS			1	3		9				1			5	1	1			1			22	32
7	INDUSTRIAL ARTS							1			1		1			1			2			6	16
8	JOURNALISM																						
9	LIBRARY SCIENCE				1																	1	0
10	MATHEMATICS				1			1			5				5			1				13	17
11	MUSIC											8				1			2			11	25
12	PHYS. ED.—MEN										1		4			1			2			8	34
13	PHYS. ED.—WOMEN										1			4					1			6	15
14	GENERAL SCIENCE										4				1							5	10
15	BIOLOGY														2		2	1				5	16
16	CHEMISTRY																					0	7
17	PHYSICS																					0	2
18	SOCIAL STUDIES			1	3	1							8			1			11	2		27	45
19	SPEECH																					0	4
20	OTHER									1			1								3	5	0
21	HIGH SCHOOL TOTAL																					172	320
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	50			LOWER GRADES	148			UPPER GRADES	121								319	114

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XX. Demand for Teachers—Nebraska

MAJOR	MINOR: NEBRASKA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	12						2							2	1						17	22
2	ART		7		1																	8	8
3	COMMERCE			42	6		1		1	1	1	1	4	1	2				10	2		72	79
4	ENGLISH		2	16	26	5	1	1	4	7	2	8	4	2	2	1			20	20		121	84
5	FOREIGN LANGUAGE				2	9					1				1				1	1		15	17
6	HOME ECONOMICS			5	7		35			4	1			3	7				3		1	66	57
7	INDUSTRIAL ARTS	1		2	2			9					8		4	2			6		1	35	37
8	JOURNALISM				1				1													2	1
9	LIBRARY SCIENCE					1				2							1					4	
10	MATHEMATICS			1	7			1		1	9	2	3	1	2	2	3	4	5		1	42	32
11	MUSIC				7						2	61			2				3	1		76	72
12	PHYS. ED.—MEN			3	4			6			8		3		2	3	1	1	15	1	2	49	112
13	PHYS. ED.—WOMEN				1									6								7	25
14	GENERAL SCIENCE						1				1		5		9	4		3	5			28	19
15	BIOLOGY						1	1			3		1		3	4	3	1	4			21	29
16	CHEMISTRY					1										3		3				7	4
17	PHYSICS							1			3				1	1						6	3
18	SOCIAL STUDIES	1		3	10	2	1	3		1	1	4	36	1	2	4		1	32			102	124
19	SPEECH				2															1		3	22
20	OTHER													1					1		9	11	48
21	HIGH SCHOOL TOTAL																					692	789
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	952		LOWER GRADES	339		UPPER GRADES	483										1774	384

TABLE XXI. Demand for Teachers—Nevada

MAJOR	MINOR: NEVADA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE					1		2														3	1
2	ART							1														1	2
3	COMMERCE			8		1								1								10	5
4	ENGLISH			1	6	3			1		1		3						5	2		22	7
5	FOREIGN LANGUAGE																		1			1	
6	HOME ECONOMICS						7			1				1	1							10	6
7	INDUSTRIAL ARTS							5			1											6	1
8	JOURNALISM								1													1	
9	LIBRARY SCIENCE									1												1	
10	MATHEMATICS										7		2		1			1	1			12	5
11	MUSIC											2										2	2
12	PHYS. ED.—MEN												1						2		2	5	6
13	PHYS. ED.—WOMEN													2					1		3	6	9
14	GENERAL SCIENCE			1	1						1				2				1			6	
15	BIOLOGY													1	1		1	1	1			5	2
16	CHEMISTRY										2											2	2
17	PHYSICS																						
18	SOCIAL STUDIES			1	1								3		1				7			13	10
19	SPEECH																						1
20	OTHER																				6	6	
21	HIGH SCHOOL TOTAL																					112	59
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	8		LOWER GRADES	120		UPPER GRADES	94			SPECIAL EDUCATION	4						226	31

TABLE XXII. Demand for Teachers—New Hampshire

MAJOR	MINOR: NEW HAMPSHIRE 1955-56	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	2																				2	2
2	ART		3																			3	2
3	COMMERCE			20	1	1					1								1			24	8
4	ENGLISH				20	11					2					1			10		1	45	22
5	FOREIGN LANGUAGE					1													2			3	8
6	HOME ECONOMICS						16				1				1							18	19
7	INDUSTRIAL ARTS							14			2							1			3	20	12
8	JOURNALISM																						
9	LIBRARY SCIENCE									1												1	
10	MATHEMATICS			1	3	1					12				3			4	7			31	15
11	MUSIC											5										5	3
12	PHYS. ED.—MEN												9						1			10	
13	PHYS. ED.—WOMEN													4					1			5	15
14	GENERAL SCIENCE										2				2	1	1	1				7	15
15	BIOLOGY										1				1	1	1	2				6	2
16	CHEMISTRY														2	1		1				4	1
17	PHYSICS														1							1	1
18	SOCIAL STUDIES				3						3				2				15		1	24	33
19	SPEECH																						
20	OTHER										1										3	4	1
21	HIGH SCHOOL TOTAL																					213	159
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	3		LOWER GRADES	101		UPPER GRADES	153			SPECIAL EDUCATION	3						350	101

The New Hampshire report shows the new teachers employed in September 1955.

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XXIII. Demand for Teachers—New Jersey

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	6																				6	3
2	ART		86																			86	10
3	COMMERCE			129																		129	99
4	ENGLISH				241																	241	109
5	FOREIGN LANGUAGE					89																89	41
6	HOME ECONOMICS						100															100	16
7	INDUSTRIAL ARTS							85														85	22
8	JOURNALISM																						
9	LIBRARY SCIENCE									19												19	4
10	MATHEMATICS										147											147	33
11	MUSIC											147										147	29
12	PHYS. ED.—MEN												46									46	57
13	PHYS. ED.—WOMEN													67								67	37
14	GENERAL SCIENCE														71							71	26
15	BIOLOGY															34						34	9
16	CHEMISTRY																14					14	4
17	PHYSICS																	8				8	
18	SOCIAL STUDIES																		143			143	129
19	SPEECH																						11
20	OTHER																				154	154	20
21	HIGH SCHOOL TOTAL																					1580	657
22	ELEMENTARY SCHOOL TOTAL	KINDERGARTEN—GRADE VI 2131										GRADES VII—VIII 401							SPECIAL EDUCATION 107				2639	561

In New Jersey it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in the composite table.

TABLE XXIV. Demand for Teachers—New Mexico

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	3			1						1				2	1						8	7
2	ART		8		2														1			11	11
3	COMMERCE	1		14	3		1		1		2								1			23	40
4	ENGLISH	4	1		35	3			2	3	1	1	1	1					11		1	64	37
5	FOREIGN LANGUAGE				2	7																9	10
6	HOME ECONOMICS	2			1		24							1	3	2			1		1	35	18
7	INDUSTRIAL ARTS						1	9			1		2						2		1	16	21
8	JOURNALISM								2										1			3	1
9	LIBRARY SCIENCE	2								4									1		1	8	
10	MATHEMATICS	4		1		2		1			24		2		8	1		1			2	46	13
11	MUSIC				4							20										24	19
12	PHYS. ED.—MEN	1									3	5	1	1	3				2		1	17	54
13	PHYS. ED.—WOMEN			2	1							1	10									14	6
14	GENERAL SCIENCE											1			7	2	1					11	9
15	BIOLOGY	1														4	2				1	8	8
16	CHEMISTRY															2						2	3
17	PHYSICS														1				2			3	
18	SOCIAL STUDIES	1		2	4								4		1				25			37	42
19	SPEECH				1															2	1	4	6
20	OTHER	1																	1		11	13	3
21	HIGH SCHOOL TOTAL																					346	308
22	ELEMENTARY SCHOOL TOTAL	ONE ROOM					LOWER GRADES					UPPER GRADES										463	205

TABLE XXV. Demand for Teachers—North Carolina (White)

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	30														1						31	37
2	ART		4		1																	5	16
3	COMMERCE			108	8						1		2		1				10			130	190
4	ENGLISH				119	42	1			5	5			5	7				35			219	228
5	FOREIGN LANGUAGE					9					3								7			19	32
6	HOME ECONOMICS						65				1				11							77	102
7	INDUSTRIAL ARTS							10														10	28
8	JOURNALISM																						
9	LIBRARY SCIENCE									6												6	11
10	MATHEMATICS										57		8	2	27				10			104	83
11	MUSIC											24										24	62
12	PHYS. ED.—MEN												33		6				30			69	106
13	PHYS. ED.—WOMEN													15	2				6			23	56
14	GENERAL SCIENCE														80				10			90	22
15	BIOLOGY				1		2				1		6	2		9	3		4			28	45
16	CHEMISTRY						1										1					2	4
17	PHYSICS																						
18	SOCIAL STUDIES					2													65			67	146
19	SPEECH																						
20	OTHER																				30	30	34
21	HIGH SCHOOL TOTAL																					934	1237
22	ELEMENTARY SCHOOL TOTAL	ONE ROOM 2					LOWER GRADES 588					UPPER GRADES 1230				SPECIAL EDUCATION 11						1831	760

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XXVI. Demand for Teachers—North Carolina (Negro)

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1954) SUPPLY
	NORTH CAROLINA 1956-57																						
1	AGRICULTURE	4																				4	20
2	ART		1																			1	7
3	COMMERCE			24	4					1	1											30	80
4	ENGLISH				16	10				1		1			2				15			45	36
5	FOREIGN LANGUAGE					1													2			3	12
6	HOME ECONOMICS						16								2							18	51
7	INDUSTRIAL ARTS							6														6	29
8	JOURNALISM																						
9	LIBRARY SCIENCE									6									4			10	13
10	MATHEMATICS										9	1	1		11				2			24	23
11	MUSIC											14							1			15	19
12	PHYS. ED.—MEN												7		3				3			13	32
13	PHYS. ED.—WOMEN													5	1				4			10	26
14	GENERAL SCIENCE														15				5			20	15
15	BIOLOGY						1						4	2		2	1		1			11	74
16	CHEMISTRY																1					1	5
17	PHYSICS																						1
18	SOCIAL STUDIES																		21			21	74
19	SPEECH																						
20	OTHER																				10	10	1
21	HIGH SCHOOL TOTAL																					242	518
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM 2			LOWER GRADES 182					UPPER GRADES 287			SPECIAL EDUCATION 1							472	526

TABLE XXVII. Demand for Teachers—North Dakota

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1954) SUPPLY
	NORTH DAKOTA 1956-57																						
1	AGRICULTURE	1						1							8		1					11	13
2	ART		2			1	1															4	3
3	COMMERCE			7	5	1					1	2	3		3	1			16		2	41	45
4	ENGLISH			3	13	6	2			4		3			5	2	1		14		2	55	44
5	FOREIGN LANGUAGE				2	1																3	1
6	HOME ECONOMICS				1		5							3	17							26	55
7	INDUSTRIAL ARTS												2	1	2				2		1	8	16
8	JOURNALISM																					0	
9	LIBRARY SCIENCE									1												1	4
10	MATHEMATICS			1								2	2		10	2			2			19	22
11	MUSIC			1	9							4			2				9			25	36
12	PHYS. ED.—MEN			3							4		1		5	1			5			19	48
13	PHYS. ED.—WOMEN			1			1							2	1				1			6	13
14	GENERAL SCIENCE				5						11		4		6				2			28	14
15	BIOLOGY			1									1		1							3	7
16	CHEMISTRY										1											1	3
17	PHYSICS										1											1	1
18	SOCIAL STUDIES		2	5	11	1				1		1	12		4	1			12		1	51	61
19	SPEECH				1										1						2	4	7
20	OTHER				1														1			2	13
21	HIGH SCHOOL TOTAL																					308	406
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM 659			LOWER GRADES 177					UPPER GRADES 125										961	79

This is an incomplete report of the demand for new teachers in North Dakota, and thus the figures shown in this table are not included in the composite table.

TABLE XXVIII. Demand for Teachers—Ohio

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1954) SUPPLY
	OHIO 1956-57																						
1	AGRICULTURE	17						5								23	2					47	18
2	ART		69					4				3										76	113
3	COMMERCE			207	3						4											214	189
4	ENGLISH				260				4	5										27		296	284
5	FOREIGN LANGUAGE				12	87													3			102	121
6	HOME ECONOMICS		4				107							8		15	2					136	143
7	INDUSTRIAL ARTS							116			7				32			1				156	65
8	JOURNALISM				1				1													2	4
9	LIBRARY SCIENCE				3					8												11	17
10	MATHEMATICS										116				12		14	12				154	146
11	MUSIC		3									207							6			216	280
12	PHYS. ED.—MEN	2											192			18						212	212
13	PHYS. ED.—WOMEN			7			3							82								92	164
14	GENERAL SCIENCE										3				77		1	1				82	
15	BIOLOGY				1		3						4			37						45	146
16	CHEMISTRY										8						57					65	34
17	PHYSICS										5							32				37	24
18	SOCIAL STUDIES						2		1	1									234			238	378
19	SPEECH				34															52		86	116
20	OTHER																				587	587	123
21	HIGH SCHOOL TOTAL																					2856	2723
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM			LOWER GRADES					UPPER GRADES										4176	3449

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XXIX. Demand for Teachers—Oklahoma

MAJOR	MINOR: OKLAHOMA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	15																				15	77
2	ART		6																			6	21
3	COMMERCE	1		70	2			1	1	2	2		1		1				4	1	6	92	213
4	ENGLISH			6	73		3		1	2	1	4							9	12	5	116	92
5	FOREIGN LANGUAGE				4	3	5															12	6
6	HOME ECONOMICS			1	5		47												2			55	142
7	INDUSTRIAL ARTS			1	1			42			1		3	1	1	1	1		3		3	58	183
8	JOURNALISM																						
9	LIBRARY SCIENCE									7												7	
10	MATHEMATICS			3	4			3			50	1	2		6	1		1	4		3	78	70
11	MUSIC				2						1	79									2	75	83
12	PHYS. ED.—MEN				1						2		14		1			1	4		4	27	104
13	PHYS. ED.—WOMEN													13					1			14	26
14	GENERAL SCIENCE				2		2			1	9		1	1	13	6	2		4	1		42	27
15	BIOLOGY			1							4		1	1	4	1	4	1			1	18	67
16	CHEMISTRY														1		1			1		3	8
17	PHYSICS				1												2	2	1			6	9
18	SOCIAL STUDIES	1			5	1		1			2	2	14	5	2				49	3	6	91	185
19	SPEECH				4						1		1						2	7	2	17	37
20	OTHER				1		1														11	13	14
21	HIGH SCHOOL TOTAL																					745	1388
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	46		LOWER GRADES	248		UPPER GRADES	307		SPECIAL EDUCATION	26							627	708

TABLE XXX. Demand for Teachers—Oregon

MAJOR	MINOR: OREGON 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	8						2					1		1							12	9
2	ART		9	1	1										1				1	1		14	23
3	COMMERCE			32	2	2	2			3	1		1	3					2	1		49	35
4	ENGLISH			5	31	5	1		6	4	1		2	1		1			16	10	1	86	41
5	FOREIGN LANGUAGE				11	5		1							1							18	12
6	HOME ECONOMICS			1	6		26							6	1				1			41	56
7	INDUSTRIAL ARTS				2			15			1											16	10
8	JOURNALISM				2																	2	1
9	LIBRARY SCIENCE			1	2					2									2			7	
10	MATHEMATICS				2	1					10		2		9	2			3		1	30	25
11	MUSIC				2				1			14							1			18	58
12	PHYS. ED.—MEN							1			4		6		5	1			8		1	26	80
13	PHYS. ED.—WOMEN		2				2		1					18	1	4			2		1	31	31
14	GENERAL SCIENCE							1			15		5	1	4	2		1	3			32	10
15	BIOLOGY										1		1		2				2			6	28
16	CHEMISTRY																	2				2	12
17	PHYSICS										1						1					2	4
18	SOCIAL STUDIES			1	9			1	2		1	1	13	1	2				13	2	2	48	90
19	SPEECH				5																	5	14
20	OTHER			3	2														2		29	36	6
21	HIGH SCHOOL TOTAL																					479	545
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	7		LOWER GRADES	907		UPPER GRADES	317		SPECIAL EDUCATION	12							1243	495

TABLE XXXI. Demand for Teachers—Puerto Rico

MAJOR	MINOR: PUERTO RICO 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
1	AGRICULTURE	17																				17	5
2	ART		0																				
3	COMMERCE			8																		8	4
4	ENGLISH				33																	33	13
5	FOREIGN LANGUAGE																						27
6	HOME ECONOMICS						35															35	37
7	INDUSTRIAL ARTS							24														24	14
8	JOURNALISM																						
9	LIBRARY SCIENCE																						
10	MATHEMATICS										22											22	1
11	MUSIC											0											
12	PHYS. ED.—MEN												3									3	11
13	PHYS. ED.—WOMEN													2								2	
14	GENERAL SCIENCE														29							29	9
15	BIOLOGY															14						14	2
16	CHEMISTRY																4					4	
17	PHYSICS																						
18	SOCIAL STUDIES																		82			82	58
19	SPEECH																						
20	OTHER																						2
21	HIGH SCHOOL TOTAL																					273	183
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM			LOWER GRADES			UPPER GRADES											1230	364

In Puerto Rico it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in the composite table.

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XXXII. Demand for Teachers—South Carolina (White)

MAJOR	SOUTH CAROLINA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (NEW) SUPPLY
1	AGRICULTURE	11																				11	16
2	ART		9																			9	10
3	COMMERCE			34							3								2		2	41	74
4	ENGLISH				46	8					2				3				31	3	3	96	108
5	FOREIGN LANGUAGE				2				1													3	12
6	HOME ECONOMICS						32								4	2						38	40
7	INDUSTRIAL ARTS						2	7			3											12	12
8	JOURNALISM								1													1	
9	LIBRARY SCIENCE									15												15	2
10	MATHEMATICS				2						36		3		27				5			73	26
11	MUSIC											37										37	47
12	PHYS. ED.—MEN				2						2		10		4				7	2		27	57
13	PHYS. ED.—WOMEN				2									35							2	39	24
14	GENERAL SCIENCE				2						5		7		25	9	2	4	7		3	64	20
15	BIOLOGY														4	8	2		3			17	14
16	CHEMISTRY														4	2		3	2			11	8
17	PHYSICS																	19				19	
18	SOCIAL STUDIES		2		8						5		2		2				30			49	85
19	SPEECH																			1		1	18
20	OTHER																		2		31	33	
21	HIGH SCHOOL TOTAL																					596	574
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM				LOWER GRADES		217		UPPER GRADES		299							516	270

TABLE XXXIII. Demand for Teachers—South Carolina (Negro)

MAJOR	SOUTH CAROLINA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (NEW) SUPPLY
1	AGRICULTURE	11													1							12	28
2	ART		4	2									2									8	3
3	COMMERCE			4	6						2			2					2			16	34
4	ENGLISH				27	7				2									4			40	23
5	FOREIGN LANGUAGE																						5
6	HOME ECONOMICS						11								2	2						15	23
7	INDUSTRIAL ARTS							6					3									9	17
8	JOURNALISM																						
9	LIBRARY SCIENCE				3		2			10												15	10
10	MATHEMATICS				2						28				4				4		2	40	25
11	MUSIC											14							2			16	9
12	PHYS. ED.—MEN												11		2	2					2	17	25
13	PHYS. ED.—WOMEN													11	2	2			2			17	12
14	GENERAL SCIENCE		2								5		3	2	12	5	4					33	5
15	BIOLOGY									1			1			1						3	29
16	CHEMISTRY														2		1					3	10
17	PHYSICS																						
18	SOCIAL STUDIES			2	6							3			2				26			39	59
19	SPEECH																			3		3	
20	OTHER																				8	8	
21	HIGH SCHOOL TOTAL																					294	317
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM		1		LOWER GRADES		91		UPPER GRADES		134							226	344

TABLE XXXIV. Demand for Teachers—South Dakota

MAJOR	SOUTH DAKOTA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (NEW) SUPPLY
1	AGRICULTURE	10													2							12	21
2	ART		2																			2	2
3	COMMERCE			19							1				1	2			1			24	34
4	ENGLISH		1	4	17		1					3				1			6			33	42
5	FOREIGN LANGUAGE				1	2													1			4	
6	HOME ECONOMICS					17						1			1				1			20	39
7	INDUSTRIAL ARTS				1			3			1								1			6	19
8	JOURNALISM																						
9	LIBRARY SCIENCE																						
10	MATHEMATICS			3							4				4	2	1	1				15	20
11	MUSIC				1						1	17										19	30
12	PHYS. ED.—MEN												1						1			2	50
13	PHYS. ED.—WOMEN													1								1	13
14	GENERAL SCIENCE							1			3				7	5	1		3			20	17
15	BIOLOGY														3	2	1		3			9	5
16	CHEMISTRY																1	1				2	7
17	PHYSICS																						
18	SOCIAL STUDIES			1	1						1				2	2	1		24	1		33	66
19	SPEECH																						14
20	OTHER																						
21	HIGH SCHOOL TOTAL																					202	379
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM				LOWER GRADES				UPPER GRADES									1166	84

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XXXV. Demand for Teachers—Tennessee

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	TENNESSEE 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL SUPPLY (NEW)
1	AGRICULTURE	5									1				2				1			9	26
2	ART		2																			2	14
3	COMMERCE			24	6														8			38	182
4	ENGLISH			2	32	11				2	1	1		1	1		1		7			59	191
5	FOREIGN LANGUAGE				1	1																2	24
6	HOME ECONOMICS			1	1		16			1	1				3		2					25	147
7	INDUSTRIAL ARTS							8			1								1			10	67
8	JOURNALISM																						
9	LIBRARY SCIENCE				3					2												5	1
10	MATHEMATICS			2	1	1					17				3	1			3			28	68
11	MUSIC			2	2						2	16			1				2			25	98
12	PHYS. ED.—MEN			2							2		17	5	5	2			8			41	172
13	PHYS. ED.—WOMEN		1		2						1			17		1			2			24	79
14	GENERAL SCIENCE							2			1				4	4	4	1	2			18	58
15	BIOLOGY										3		1	1	1	3	4		2			15	68
16	CHEMISTRY														3	1	1					5	8
17	PHYSICS														1							1	1
18	SOCIAL STUDIES				5			1			2		3		4	3	1		19			38	314
19	SPEECH																		1			1	14
20	OTHER																				5	5	24
21	HIGH SCHOOL TOTAL																					351	1556
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM				LOWER GRADES				UPPER GRADES									1113	729

The Tennessee report includes inexperienced teachers only.

TABLE XXXVI. Demand for Teachers—Texas

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	TEXAS 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL SUPPLY (NEW)
1	AGRICULTURE	73																			73	240
2	ART		34																		34	92
3	COMMERCE			181																	181	549
4	ENGLISH				318																318	433
5	FOREIGN LANGUAGE					42															42	60
6	HOME ECONOMICS						170														170	332
7	INDUSTRIAL ARTS							74													74	148
8	JOURNALISM																					29
9	LIBRARY SCIENCE									34											34	21
10	MATHEMATICS										240										240	198
11	MUSIC											178									178	354
12	PHYS. ED.—MEN												224								224	488
13	PHYS. ED.—WOMEN																					198
14	GENERAL SCIENCE																					73
15	BIOLOGY														244						244	110
16	CHEMISTRY																					35
17	PHYSICS																					5
18	SOCIAL STUDIES																	251			251	645
19	SPEECH																		59		59	130
20	OTHER																			152	152	28
21	HIGH SCHOOL TOTAL																				2274	4168
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM				LOWER GRADES	1949			UPPER GRADES	1730	SPECIAL EDUCATION		40				3719	1918

In Texas it was not possible to identify the minor teaching assignments of new high school teachers, and thus the figures shown in this table are not included in the composite table.

TABLE XXXVII. Demand for Teachers—Utah

MAJOR	MINOR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A	B
	UTAH 1956-57	AGRICULTURE	ART	COMMERCE	ENGLISH	FOREIGN LANGUAGE	HOME ECONOMICS	INDUSTRIAL ARTS	JOURNALISM	LIBRARY SCIENCE	MATHEMATICS	MUSIC	PHYS. ED. MEN	PHYS. ED. WOMEN	GENERAL SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS	SOCIAL STUDIES	SPEECH	OTHER	TOTAL DEMAND	TOTAL SUPPLY (NEW)
1	AGRICULTURE	2						1								1			1			5	7
2	ART		11		2															1		14	25
3	COMMERCE			17	1						2		1	1					2			21	50
4	ENGLISH		1	1	44	3			2	1	2	1		1		1			15	7	2	81	57
5	FOREIGN LANGUAGE				2	3																5	12
6	HOME ECONOMICS			2	1	1	30							5	1				3		1	44	57
7	INDUSTRIAL ARTS							18			6								1		1	26	34
8	JOURNALISM				1																	1	
9	LIBRARY SCIENCE			1	1		2			5												9	1
10	MATHEMATICS		1	1	3						16	1	2		9				1		1	35	12
11	MUSIC				3	1					2	12							1			19	30
12	PHYS. ED.—MEN				2						1		16		2	1			4			26	66
13	PHYS. ED.—WOMEN			3	1					1	1			28	3				4			41	49
14	GENERAL SCIENCE							1			10		1		10	2			1		1	26	26
15	BIOLOGY										1					4						5	20
16	CHEMISTRY														1	1	2	1	1			6	4
17	PHYSICS										1											1	2
18	SOCIAL STUDIES				11						2		1						22		1	39	109
19	SPEECH				4							1							1	5		11	34
20	OTHER				3						1								1		8	13	31
21	HIGH SCHOOL TOTAL																					431	620
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	3			LOWER GRADES		256		UPPER GRADES	217	SPECIAL EDUCATION		12					488	555

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XXXVIII. Demand for Teachers—Vermont

MAJOR	VERMONT 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (NEW) SUPPLY
1	AGRICULTURE	3														1					1	5	4
2	ART		1																			1	1
3	COMMERCE			8	1						2								1			12	6
4	ENGLISH				8	11					1				1				16			37	24
5	FOREIGN LANGUAGE				1	1																2	10
6	HOME ECONOMICS				1		7				1				2	1			1			13	10
7	INDUSTRIAL ARTS							9													1	10	
8	JOURNALISM																						
9	LIBRARY SCIENCE																						
10	MATHEMATICS										3				6				4			13	3
11	MUSIC											4							1			5	4
12	PHYS. ED.—MEN												2						1			3	
13	PHYS. ED.—WOMEN													3								3	
14	GENERAL SCIENCE				1						6		1		4							12	3
15	BIOLOGY														1							1	1
16	CHEMISTRY																1					1	4
17	PHYSICS										1											1	
18	SOCIAL STUDIES				5	1					5	1	1		2	1			5			21	27
19	SPEECH																						
20	OTHER																				3	3	11
21	HIGH SCHOOL TOTAL																					143	108
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	37		LOWER GRADES	88		UPPER GRADES	83										208	166

TABLE XXXIX. Demand for Teachers—Virginia

MAJOR	VIRGINIA 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (NEW) SUPPLY
1	AGRICULTURE	23						1			1								1			26	33
2	ART		31		7														2			40	33
3	COMMERCE			118	2	1					2								1			124	128
4	ENGLISH		1	1	122	18			4	3	1	1		6	9	2			75	8	6	257	126
5	FOREIGN LANGUAGE				20	23					1								6			50	21
6	HOME ECONOMICS						66							1	1							68	90
7	INDUSTRIAL ARTS							48					1									49	27
8	JOURNALISM																						
9	LIBRARY SCIENCE				1					19	1								1			22	7
10	MATHEMATICS				4	2				1	116		3		23	1		6	5		1	162	47
11	MUSIC				5							72										77	63
12	PHYS. ED.—MEN			2							2		99		3	1			15		1	123	45
13	PHYS. ED.—WOMEN				2						1			52	1				8			64	49
14	GENERAL SCIENCE			1	4		2				15		8	2	72	6	2		8		1	121	35
15	BIOLOGY													1	2	7	1					11	33
16	CHEMISTRY										3				2	2	1	2				10	19
17	PHYSICS																	3				3	12
18	SOCIAL STUDIES		2	2	25	2					4		7	4	1				108			145	196
19	SPEECH													1						1	1	3	14
20	OTHER			1	7												1				50	55	
21	HIGH SCHOOL TOTAL																					1420	976
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	23		GRADES	I-IV	1068			GRADES	V-VIII	881							1972	596

TABLE XL. Demand for Teachers—Washington

MAJOR	WASHINGTON 1956-57	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (NEW) SUPPLY
1	AGRICULTURE	12						3					1		1	1					3	21	8
2	ART		28		2						2								2			34	52
3	COMMERCE			42	5		1	1	1	1	2			1					4	1	1	62	39
4	ENGLISH		2	4	83	11	4		9	6	4	1	1	4	1				34	8	8	180	98
5	FOREIGN LANGUAGE				7	22													4			33	22
6	HOME ECONOMICS			1	6		80			1	1			6		1			4		1	101	86
7	INDUSTRIAL ARTS							56			6		1					1	1		1	66	65
8	JOURNALISM				3																	3	4
9	LIBRARY SCIENCE				2	2				18					1		1		1			25	
10	MATHEMATICS				3		1	2			31		3	3			2	2	6	1	2	56	27
11	MUSIC				5						3	67		1				1	1		6	84	65
12	PHYS. ED.—MEN										3		25			1			6		1	36	80
13	PHYS. ED.—WOMEN		1		5						1			36	1	3					5	52	38
14	GENERAL SCIENCE				1						8				28				2			39	30
15	BIOLOGY					1					2		2	1		11		1			1	19	29
16	CHEMISTRY							1			6		2			1	10	2			2	24	15
17	PHYSICS	1	1								5					1		1				9	5
18	SOCIAL STUDIES			1	11	2	1	2		1	3		10	2	1	2			45	1	9	91	201
19	SPEECH																			6		6	23
20	OTHER			2	2	1		1	1		1		2	1					3		189	203	25
21	HIGH SCHOOL TOTAL																					1144	912
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	21		KINDERGARTEN—GRADE III		860			GRADES IV-VI		777				GRADES VII-VIII		367	2025	767

Number of New Elementary and High School Teachers Who Did Not Teach The Preceding School Year

TABLE XLI. Demand for Teachers—West Virginia

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
	WEST VIRGINIA 1955-56 1956-57																						
1	AGRICULTURE	11						1					1		2	3						18	27
2	ART		5																			5	23
3	COMMERCE			36	3									1							1	41	78
4	ENGLISH			5	96	7	1		5	5	1	1	2	4	1	1			25	2		156	74
5	FOREIGN LANGUAGE				1	2																3	16
6	HOME ECONOMICS				3		21							4	1	1			2			32	77
7	INDUSTRIAL ARTS							12														12	24
8	JOURNALISM				1				1													2	7
9	LIBRARY SCIENCE				1				15												1	17	3
10	MATHEMATICS			1	2						42		4		6	2	3	2	3			65	27
11	MUSIC											28										28	60
12	PHYS. ED.—MEN			1									14		4	1			5			25	152
13	PHYS. ED.—WOMEN				4						1			20	2	6			2			35	42
14	GENERAL SCIENCE										4		1		19	1	1	1	4			31	11
15	BIOLOGY										2			1		7			4			14	35
16	CHEMISTRY				1						1				1	1	4		1			9	1
17	PHYSICS																						9
18	SOCIAL STUDIES		1	1	7	3					3	1	12	1	1	2			67			98	77
19	SPEECH																			1		1	4
20	OTHER												1						1		9	11	21
21	HIGH SCHOOL TOTAL																					601	768
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM				LOWER GRADES				UPPER GRADES									484	318

This is an incomplete report of the demand for new teachers in West Virginia, and thus the figures shown in this report are not included in the composite table. The high school figures refer to the 1955-56 year; the elementary school figures refer to the 1956-57 year.

TABLE XLII. Demand for Teachers—Wisconsin

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
	WISCONSIN 1956-57																						
1	AGRICULTURE	14			1			2			2		2		3	6	4		1		1	36	65
2	ART		25	1	2	1													1			29	70
3	COMMERCE			66	3						2	1	2			2			4	1		79	111
4	ENGLISH		1	5	109	16		1	3	21	2	1		2	1	3		2	35	12		214	169
5	FOREIGN LANGUAGE				11	9													1			21	35
6	HOME ECONOMICS		3		4	1	80							3	6	3	1		2			101	122
7	INDUSTRIAL ARTS	1						29			1		2		1				4			38	86
8	JOURNALISM																						6
9	LIBRARY SCIENCE				2	1				7	1								1			12	1
10	MATHEMATICS				1	1					37		2		11	2	9	8	2			73	65
11	MUSIC		1		5			1				54	2			2		1	6			72	101
12	PHYS. ED.—MEN										4		29	4	9	8	2	1	9	1		67	58
13	PHYS. ED.—WOMEN				1	1					1			46	2	3			6			60	50
14	GENERAL SCIENCE										6		2		20	6	7	2	4			47	70
15	BIOLOGY	1								1	5	1	2	1	4	15	3	5	3			41	70
16	CHEMISTRY										4				1	3	3	3	1			15	19
17	PHYSICS										3				2			3				8	7
18	SOCIAL STUDIES			7	12	2				3	2		9	2	2	3		1	68	1	1	113	216
19	SPEECH				3															8		11	91
20	OTHER		1				1	2			2		1						2	19	5	33	23
21	HIGH SCHOOL TOTAL																					1072	1435
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	540		LOWER GRADES		801		UPPER GRADES	420		SPECIAL EDUCATION		54					1815	988

TABLE XLIII. Demand for Teachers—Wyoming

MAJOR	MINOR	1 AGRICULTURE	2 ART	3 COMMERCE	4 ENGLISH	5 FOREIGN LANGUAGE	6 HOME ECONOMICS	7 INDUSTRIAL ARTS	8 JOURNALISM	9 LIBRARY SCIENCE	10 MATHEMATICS	11 MUSIC	12 PHYS. ED. MEN	13 PHYS. ED. WOMEN	14 GENERAL SCIENCE	15 BIOLOGY	16 CHEMISTRY	17 PHYSICS	18 SOCIAL STUDIES	19 SPEECH	20 OTHER	A TOTAL DEMAND	B TOTAL (1956) SUPPLY
	WYOMING 1956-57																						
1	AGRICULTURE	5						1							2							8	13
2	ART																					0	3
3	COMMERCE			15	1		1												1			18	6
4	ENGLISH				24	2			1	1											1	29	7
5	FOREIGN LANGUAGE				3	1																4	0
6	HOME ECONOMICS			1	1		14							1	1						1	19	17
7	INDUSTRIAL ARTS							7					1									8	4
8	JOURNALISM																					0	0
9	LIBRARY SCIENCE																					0	0
10	MATHEMATICS										7		2		5			1	1			16	6
11	MUSIC					1						7										8	5
12	PHYS. ED.—MEN							1			1		2		1				2			7	26
13	PHYS. ED.—WOMEN													4					1			5	4
14	GENERAL SCIENCE										2			3	4							9	1
15	BIOLOGY														1	1						2	1
16	CHEMISTRY																					0	1
17	PHYSICS																					0	0
18	SOCIAL STUDIES				1				1		1		1		1				12		1	22	6
19	SPEECH				2																1	3	0
20	OTHER																				2	2	0
21	HIGH SCHOOL TOTAL																					160	100
22	ELEMENTARY SCHOOL TOTAL				ONE ROOM	55		LOWER GRADES		115		UPPER GRADES	64		SPECIAL EDUCATION		3					297	29

An Experiment in Group Decision

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A "group decision" is a voluntary agreement by members of a group concerning attitude and action towards a goal. The group decision is voluntary in the sense that the group members accept the decision as their own and not as one forced upon them. Carrying out the group decision should result in feelings of success while not carrying it out should result in feelings of failure. With the application of group decision will a group decide to set higher goals? Can a group decision be made which does not involve all members of the group? How will members react to the process of group decision and the results of acting upon the decision?

The present study is concerned with these problems in a college classroom setting. The specific group decision, treated experimentally, was that of getting the group to raise their level of aspiration related to course work.

Setting of the Experiment

The experiment was conducted during the school season 1953-54 at State Teachers College in Boston. The college prepares kindergarten and elementary school teachers. Students commute daily, and there is a friendly and congenial atmosphere.

The freshman class of approximately 200 was divided into sections according to elective subject. The writer instructed five sections of freshmen in general psychology. Each section met three times per week. Four of the five sections were composed of girls, and their electives were as follows: music (two sections), history (one section), and French (one section).

The writer undertook this investigation for two reasons: First, he was disturbed by the number of failures that the music elective section obtained on the mid-semester examination, an objective test given to all sections. Secondly, he wished to test the worth of "group decision" because the reported results of group decision experiments sounded too good. In carrying out this investigation, the writer attempted to be as unbiased as he knew how to be. He made a sincere effort to give the same lectures to each section and not to be more enthusiastic or friendly to one section than to another.

Design of the Experiment

The control group and the experimental group were matched in so far as they were all freshmen in college, taking the same objective tests, and covering the same course material under the same instructor. The control group included 93 students, consisting of four class sections, while the experimental group consisted of 26 students in a single class section. The only difference in instruction between the control and experimental group was the process of group decision which grew out of a 40-minute discussion culminating in a group decision to improve course marks by at least five points.

This experiment was investigated by using the analysis of covariance to statis-

tically determine if change in test score could reasonably be attributed to chance.

The Decision Process

On the morning of the discussion, the 26 students came into the classroom and seated themselves in a circle. The class period began. The following is a record of significant events just about as they happened:

Instructor: "I have finished correcting all the mid-semester examinations, and I find the marks for this section the lowest of all my five sections. In the other sections, only 18 per cent of the marks were unsatisfactory. In this class, more than 50 per cent of the marks were. Now, I am not reprimanding you. I am only interested in knowing why you made such a poor showing."

(Silence.)

The class apparently did not wish to discuss it. To overcome resistance, the instructor told them that they did not have to answer just yet. He switched to another topic until the students were discussing freely and then came back to the subject of the low marks.

(A long pause followed the question.)

Mary (meekly): "I know we did poorly in that examination."

Alice (with moral indignation): "I don't think that the class is worried about the grades."

Instructor: "Why aren't they?

Betty: "I think we are satisfied with the grades."

Helen: "Betty is right; we have no complaints."

Pauline: "Yes, I don't think we mind low grades."

Instructor: "Why are you satisfied? I am curious to know why you don't set higher levels of aspiration for yourselves."

Helen: "I don't think we want to get higher marks than our classmates."

After a long pause, Lucy, the most popular member in the class as indicated by a sociogram, attempted to explain.

Lucy: "Outsiders don't understand, but this class is much closer than most classes. We are all good friends and we don't think that it is nice to compete with our friends." Lucy continued, "We don't want to hurt our friends; they would resent us if we surpassed them."

The group seemed to be in agreement with Lucy.

Instructor: "How do the rest of you feel? Would you resent your classmate if she happened to get a higher mark than you?"

Ethel: "No."

Helen: "Of course not."

These remarks were accompanied by an undertone of nays. The instructor waited a minute to give the opposition a chance to express itself. However, there was only silence. Nobody expressed that she would be resentful if she were surpassed.

Instructor: "Now, just think about this for a moment. On one hand, you are afraid to surpass your friend because you say that she will resent it. On the other hand, since no one in this class said she resented being surpassed, you can reasonably assume that your friend does not resent it. This idea of resentment that you have exists only in your thoughts. It has no basis in reality." He continued after a short pause, "Let me ask you another question—should the motivating force for serious study be to 'beat out' your friend?"

Pat: "No! Of course not! You may want to improve your record."

Sally: "Or we might wish to compete with other classes."

Instructor: "It seems to me that if you really mean what you say when you say that you get along better and are closer friends in this section, that you *do not* want to be distinguished by your *lack* of achievement but rather by your *high* achievement. Do you want to be proud of your section? If so, the most obvious thing to do is for this class to excell in its studies."

(The class nodded enthusiastically in silent approval.)

Diverting from the actual discussion for a moment, let us examine the technique of group decision that Kurt Lewin described in his article, "Frontiers in Group Dynamics." The three steps for changing group standards are: (1) un-

freezing the old level, (2) moving to the new level, and (3) freezing at the new level.

The experimental group seemed to have carried through the first two steps. They questioned and criticized the old attitude which corresponds to the first step of "unfreezing the old level." This criticism seemed to have led to a new attitude which corresponded to the second step, "moving to a new level." It only remained to "freeze at the new level."

The instructor attempted to "freeze" the attitude by calling upon the leaders for their opinions. He expected the leaders to confirm the new attitude and thus help to freeze it. Leaders in a group exert strong influence, and this influence can help set an attitude. However, an unfortunate situation developed. Instead of freezing the new attitude, one of the leaders brought the group back to the old level, and this is how it happened:

Instructor: "How do the leaders feel about it? How do you feel about it, Joan?"

Joan: "It seems logical to me."

Instructor: "How do you feel about it, Lucy?"

Lucy (sympathetically): "Well, I don't think that it is really fair. Some people just can't do excellent work, and I don't think that it is fair to put them on the spot."

This was the remark that brought the group back to the old level. The instructor was now confronted with the most delicate part of the procedure.

Let us stop for a moment to consider some of the possible actions the instructor could have taken. He could have attacked Lucy for not practicing what she preached. She advocated a "hold-back," yet she was an "A" student. However, such at attack would have put the class on the defensive. The instructor had to be careful not to bully the class into a decision or even to reveal his wish for one. If the class became conscious of his wish, they might try to please him by *submitting* to a group decision instead of *arriving* at their own collective decision.

The instructor could have presented cold logical facts. However, Lucy's appeal was an emotional one. She had said, "Well, I don't think that it is really fair. . . . " The instructor could have simply told Lucy that she was wrong, but that would not have been effective because the group identified more closely with Lucy than they did with the instructor.

Instead of using the tactic of debasing Lucy, the instructor complimented her. This is how he did it:

Instructor: "Your desire to be kind is a fine thing, Lucy, but is it kinder to let your friends 'flunk out'? Don't forget that a general slow-down of this class doesn't raise the marks of your lowest student. The grades are determined by objective tests given to *all* sections. Your organized slow-down only lessens *your own* chances for success in the course without increasing your friends' standing. As a matter of fact, you are doing harm to your friends because attitudes of indifference are contagious."

Lucy: "Well, maybe you are right, but I still feel that competition is wrong."

Instructor: "I heartily agree with you. Competition within the class is undesirable. Now, as long as we agree that competition is undesirable, how about doing what Pat suggested earlier? She said that we should try to improve upon our own record. In this manner, everyone will have a more nearly equal chance for success without the distasteful interclass competition. Even the slowest student can improve upon her score if she tries. By competing against your own record, you make progress and the class as a whole makes progress."

(The class seemed to accept this suggestion.)

The instructor felt that the group had reached the desired level in attitude, and again he had to attempt to freeze at the

new level. Instead of trying to freeze by seeking direct acceptance, as he did before, he decided to use a new technique. What he did was to assume acceptance of the decision, and concentrate upon the next question:

Instructor: "Now suppose we set some goal. How many points would you like to improve upon? Five? Ten? Fifteen?"

The class discussed this question and finally agreed upon five points. As a final step in freezing the attitude, the instructor called upon every member of the class to express her feelings about the plan for raising the marks by five points. They all expressed approval, and thus the class period ended wtih a group decision.

Nothing further was mentioned about the group discussion or group decision. The writer purposely avoided discussion for two reasons. First, he wished to make the control and experimental group as nearly alike as possible except for the 40-minute group discussion. Second, he feared that further discussion might unfreeze the new attitude.

Student Opinion of the Experiment

After the experiment had been completed, the experimental group was informed that marks went up not five points but more than seven points. They were then assigned a short essay on the topic: "Why our class grades rose so high." Below are excerpts from the essays:

1. *Intrinsic Worth.* For a group decision to be effective, it must have intrinsic worth to the group members. A group decision cannot be made about something in which the group is not interested.

Leader Lucy wrote: "All the girls wanted to get better marks. They didn't like being told . . . they were . . . the lowest freshmen section. They weren't stupid and they didn't want anybody to think they were. So when Dr. Kostick had the girls discuss the problem, they were only too willing to do so."

T. M. stated: ". . . all the girls realized that they needed to pull up their marks, especially after that discussion."

2. *Relationship Between Group Decision and Improvement.* What caused the improvement? Was it the group decision? If it were, did the group members know that it was?

M. F. added: "The determination to raise the marks was all we needed."

G. H. wrote: "I personally believe that the discussion we had . . . helped about 50 per cent in raising my marks . . . my personal determination . . . the other 50 per cent. When we had the discussion I made up my mind then and there that I would buckle down and be serious and make the most of my chosen career. This discussion did help, but had it not been for my own choice to study and to do better, I don't believe I would have improved any."

G. H. was the only girl who suggested an alternative explanation as to why the class grades rose so high. She was unaware that a good group decision is so completely incorporated into the individual's attitude that one is not conscious of its full impact.

Joan, a second leader and also an "A" student raised the question: ". . . Whether or not the decision to do better has any effect on class improvement." One day after class she told the writer that she did not think the group decision had any effect and that she did not take the decision seriously. Another girl, overhearing this conversation, disagreed by remarking that most of the class including herself took the decision very seriously and studies intently because of it.

What caused the improvement in grades? Could the improvement be explained away by the fact that the group was made aware of the unsatisfactory grades? Would there have been any improvement even without the group discussion and group decision? The answer seems to be "No."

This is in keeping with Levine and Butler's suggestion that the acquisition of knowledge, even when it is clear as to where the responsibility lies, does not automatically lead to action.

3. *Influence of the Leaders.* C. H. wrote: ". . . the leaders had done well in their courses . . . (by comparison) . . . I think every girl was ashamed of her showing for the first quarter. It was evidence that something was wrong, and had to be corrected. As a class, with the help of our leaders, we strove to bring up all of our marks."

4. *Change in Attitude Due to Group Decision.* Change in attitude may include a change in group spirit, sense of responsibility, and group loyalty.

T. H. wrote: Before that class discussion, the majority of the class was *lax.*"

C. H. wrote: "Most of the girls in the class did not give enough serious thought to their studies."

F. A. wrote: "After our group discussion, we felt group spirit and worked together."

H. S.: ". . . a sense of responsibility . . . was introduced by the discussion."

T. F.: ". . . they did not want to be considered inferior intellectually to any other freshmen."

5. *The Relationship Between Interest and Performance.* R. S.: "I studied more and also enjoyed the work more."

A. K.: "I got better marks because I enjoyed the work more in the second quarter."

6. *Fear of "Letting the Group Down."* Y. C.: "All the time I was studying, I kept thinking that I would try my best not to let the group down, and I knew that they were thinking the same. I knew that if I were the only one who did not pass the examination that the rest of the girls would *look at me as a failure.* I thought the other girls felt that too."

7. *Band-Wagon Appeal.* T. H. wrote: "The prevailing attitude of a few had spread throughout our section. This attitude consisted of not studying . . . . This was harmful to the other members if they were not able to stand on their own feet."

C. H. wrote: "If this (previous) attitude were held by a majority, such a situation might not have developed, but unfortunately, it was held by the minority of the class. As your friends did, so you did, was the general trend."

8. *Freezing the Attitude.* An attitude that is frozen remains effective even after the conclusion of the experiment.

R. H. wrote: "I am now sure that in the future, everyone of us will study to the utmost of our ability."

C. H. wrote: "I think during the next semester, we will advance still further towards our goal, and I personally am looking forward to a greater success in school than I have had in the past."

9. *Concomitant Learning.* C. H. wrote: "I think the students of my class have learned something that will be of value to them throughout their college years and later on also. We have come to realize that to get the most out of our courses, we must apply ourselves *seriously* and *conscientiously.*"

P. L. wrote: "We finally realized what college is and what we are expected to do. . . . We now realize the importance of psychology as future teachers."

These thoughts were not verbalized in the discussion.

10. *Non-Verbal Communication.* The effectiveness of the discussion might depend heavily upon the non-verbal communication.

M. W. wrote: "The day we discussed our low average, the unspoken truth was out. We were not putting up a fight. . . . We *said nothing* to each other but went into action."

H. R. wrote: "I believe that each of us felt that she was letting the class down as well as letting herself down by not studying."

Statistical Results

By using the analysis of covariance which automatically adjusts the gains in scores for the effect of the pre-test scores, it was found that the gain in scores for the experimental group was so much greater than the gain in the control group that the difference in gains could not reasonably be attributed to chance.

Conclusion

The major conclusion of this study is that the technique of group decision can

be effectively applied in the classroom situation for the purpose of raising the level of scholastic aspirations. While it is impossible to state precisely what makes the group discussion and group decision effective, the following seem to be important:

1. *Catharsis.* As Gordon Allport has pointed out, the talking-out period plays an important part in reducing resistances.

2. *Creating a "Safety Zone."* When members of a group have no fear of reprisal, they are in a position to take a more honest and unbiased inventory of their attitude and actions. The discussion seems to have cleared the air not only for the problems verbalized but also for other problems.

3. *Group Pressure.* This component comprises all the pressures, consciously and unconsciously, to conform to the group standards.

TABLE I

Analysis of Results in a Simple Methods Experiment[1]

Group	*Total X*	*Mean X*	*Total X²*	*Total Y*	*Mean Y*	*Total Y²*	*Total XY*	*N*
Experimental	1827	70.2692	132,509	2023	77.8077	158,713	143,237	26
Control	7153	75.9140	557,635	7010	75.3763	533,446	540,935	93
Total	8980	75.6423	690,144	9033	75.9076	684,171	684,171	119

[1] Adjustments of the gain from mid-semester examination (X) to final examination (Y) were made by the analysis of covariance. For statistical design, see E. F. Lindquist, *Statistical Analysis in Educational Research.* (Boston: Houghton Mifflin Co., 1940.)

TABLE II

Analysis of Variance and Covariance

	Σx^2	Σy^2	*Adjusted* Σy^2
Method	897.1526	120.1187	311.5014
Within Groups	11,596.4273	6,365.8665	5,665.7513
Total	12,493.5799	6,485.9832	5,977.2527

$$x = {}^{t}116 = {}^{F}1/116 = \frac{311.5014\ (116)}{5{,}665.7513} = 2.5254 \quad q = .0058 \quad p = .012$$

A Look At Teacher Education

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EDUCATIONAL historians of the future will need to treat the first post-World War II decade with great care and discernment. No comparable period has been characterized by the contradictions, dilemmas, and problems which have given concern and even alarm to all manner of critics, well-wishers, and participants in the public education enterprise of the United States. Obvious recognition of the confusion, controversy, and sharp conflicts in the current educational scene often ignores the grave issues that lie behind and beneath, considerations that relate to the dilemmas and problems of the whole culture. Public education can no more expect to avoid the realities and dynamics within its own cultural matrix than any other institution that belongs to the people can escape involvement in the consequences of the conflicts and debates that accompany the processes of policy-making and decision. The common schools and other public educational institutions grew up with the people; what concerns the people affects public schools. Now the early neighborhood setting of the common school has been broadened until it is affected by problems around the globe.

All of this deeply involves teacher education in the contemporary "great debate" over public education. Its vital connection with the schools is clear, its indispensable contribution to the educational enterprise is recognized; that it must participate in the deliberative and intelligent efforts to solve our compelling problems is not so clearly perceived. And, yet it must do just that if the American people and their ways of doing things are to survive and make their essential contribution to mankind.

Teacher education, having that significant and strategic position in the mid-century postwar world, should be making good progress in terms of its goals and over-all responsibility. The question follows: "Is it?" And, further, "How do we know?" These persistent queries deserve answers based upon evidence, pertinent facts, worthwhile ideas, and tangible results.

What do the policy-makers of teacher education institutions think about their responsibility today? Or, the tasks that face America's colleges of teacher education. Have they considered strengths and weaknesses of programs? What ideas and suggestions for the future do they have? These questions together with some related ideas were submitted in questionnaire form to 226 members of governing boards and top administrative officers of teacher education institutions in 12 states. The 90 responses gave a good index (approximately 40 per cent) of the quality and variety of thinking that may be found in the statements and

views of the "policy-makers" of our colleges of teacher education.[1]

Teacher Education Today

The task of teacher education in America today was regarded as one of especial significance. Approximately 80 per cent saw teacher education as "always a significant concern in a democratic society because public education and freedom are interrelated." More than three-fourths thought that teacher education required particular emphasis *now* because of the critical need for competent teachers in public schools and almost that number noted it should be accorded as much importance as provisions for expanding elementary and secondary schools. Seventy per cent thought that education in America faced new and greater demands than ever before in our history and that we need to develop various patterns and programs of teacher education in a diversified and versatile country such as ours.

Nearly one-third believed that our teacher education institutions were at a crucial point in their history, with criticisms and outworn patterns on one hand and unprecedented needs and responsibilities to America's schools on the other. Thus, the work of colleges of teacher education will have vital connection with what happens in our nation and times. A smaller number thought that teacher education was merely one phase of higher education that should be provided and supported at public expense. Note that this does not connote any negative attitude toward teacher education but merely includes it within programs of higher education that merit public support.

Purpose and Functions

All policy-makers believed strongly that the purpose of educating teachers was important in their institutions but most were also concerned about other important functions. Even in education, for example, the teachers college should emphasize understandings on the part of other students, those who will one day serve the public as professional leaders and as active participants in community affairs. Strongest belief (78.8 per cent) was expressed in the need to study and improve teacher education in light of three kinds of needs: needs of the learner, problems of our democratic society, and the enduring values of the race.

Most administrators believed that teacher education should be, in effect, an education for leadership in public education in a democratic society. Teachers should have more than competence in the classroom. They should be real leaders in behalf of public schools and community action. More than half of the board members bracketed this view with another, namely, that the teachers college should be concerned with the education of persons who will one day serve on boards of education, as PTA officials, in legislatures, on community councils, and in other leadership roles. This last function was the third preference of the administrators. More than 40 per cent of the total respondents thought we should give more time to study and consideration of what teacher education should *be* and *try to accomplish* in our

[1] A total of 226 "opinionnaire" forms was sent to 95 presidents and deans and 131 members of governing boards of the institutions of teacher education in 12 states. Ninety replies (55 administrators, 35 board members) represented a return of 39.8 per cent. The response represented 57.8 per cent and 26.5 per cent of potential total from administrators and board members respectively. Representatives of "state colleges" supplied 52.2 per cent of the returns compared with 47.7 per cent from policy-makers connected with "state teachers colleges," although it is clear that the differences in titles are by no means clear and consistent. A full report with totals for all items may be had upon request to the author.

democratic society. Conversely, there is far less total interest (20 per cent) in the suggestion that we should study the strong points of teacher education in other countries and adopt those that work.

Over half of both groups believed that the teachers college should properly concern itself with education for other professional careers and that *all* graduates should be given the opportunity to appreciate the significance of public schools in our society. The other side of the picture was the view held by one-fourth of the administrators (shared by one seventeenth of the board members) that the teachers college should be only what its name implies.

Control, Support, and Admission

Strong majority opinion (71 per cent) favored the view that teacher education institutions should observe necessary common policies and regulations but there should be all possible autonomy and freedom for each governing board and faculty. At the opposite extreme only 11 respondents (12.2 per cent) favored the control of teachers colleges by one over-all centralized authority of the state. More than half of the board members and almost one-third of the administrators thought the boards of trustees should be representative of all major interests and groups affected by the work of the teachers college. Clear majority opinion of both groups (approximately 62 per cent) believed that boards and administrations could devise ways to use the leadership available for the faculty, alumni, and general public in the development of policy. Even stronger was the conviction (68.8 per cent) that boards and administrators of teachers colleges should seek to make them truly serve the needs of the supporting areas. Finally, nearly three-fourths of the administrators and half of the board members believed that there was room for a wide variety of institutions and for different patterns of instructional programs in teacher education institutions.

Upon the matter of support approximately nine-tenths (88.8 per cent) agreed that teacher education so obviously represents a prerequisite to good public schools that it merits adequate support from state funds.

The perennial question of how to recruit or select and admit students to the teacher education institution has become a presistent headache in recent years. Contrary factors and conditions exert pressures upon institutions and their policy-makers. Demands and needs for teachers are unprecedented and there is no prospect of change in the predicatable future. On the other hand, current criticisms of public education uniformly include implications that teachers should be selected for aptitude, and "top-drawer" ability. Economic conditions affecting teaching and the pay outlook being what they are means that the colleges of teacher education can only be in the middle of these conflicting sets of factors. This is clearly indicated in the views of top policy-makers of teacher education institutions.

Strongest consensus was expressed upon the need for a program to explain opportunities in the teaching profession today to high school youth early enough to allow time for effective guidance to be provided. Seven out of eight saw this as an immediate and a continuing desirable practice. More than 80 per cent of the responses indicated the need for faculties to continue studies of personalities of teacher candidates to discover those with best aptitude for teaching.

A third view supported by slight over-all majority (administrators 49 per cent, board members 65.6 per cent) was that everyone should have the right to enter a public teachers college but adequate

guidance services should lead those without real aptitude into choices that better fit their capabilities. Closely related to this was the suggestion that teacher candidates should be "selected" rather than "recruited," a view expressed by more than one-half (administrators 60 per cent, board members 42.9 per cent) of the total group. Although these three choices appear somewhat involved the contradictions or inconsistencies among them are more apparent than real.

A slightly different concept was checked by 42.2 per cent of the respondents but including a higher proportion of administrators (52.7 per cent). This was the position that the abilities of people differ widely and that many combinations of personality factors and aptitudes prove adequate for teaching. Obviously, this is an important bit of philosophy for a faculty, or even the educational public, to consider.

Two contrasting views gained only minority support. The concept of selectivity appeared in the wish that only candidates with high level mental ability should be admitted to teachers colleges, one expressed by slightly more than one-quarter of the total. The polar position, that anyone interested in teaching should be permitted to enter such an institution, received the support of only one-sixth, chiefly from the board member group.

The Program: Strengths and Weaknesses

The curriculum of teacher education was the strongest concern of administrators. It also received the consistently strong attention of board members. In fact, the grand total of 573 responses was the highest for any group of items. Both groups, administrators and board members, identified four top elements in a good teacher education program: (1) "a sound general education," (2) "knowledge of children and how they learn," (3) "ability to relate what goes on in the classroom to the problems and needs of the community and of democratic society as a whole," and (4) "thorough grounding in the specialized subject matter to be taught."

Three other areas for the curricula of teachers colleges were considered important by at least three-fourths of the total who replied: (1) how to teach the subject (or subjects), (2) understanding of the great moral and spiritual values from our historical tradition, and (3) appreciation of the strengths and of the uniqueness of our democratic way of life with its complementary rights and responsibilities.

Approximately one-half of all responses expressed approval for the idea of "individually-planned programs" that include any or all of the previous areas depending upon need and background of the several teacher candidates.

The question eliciting the second highest number of responses, a total of 505, represented a considerable variety of impressions and views about the strong points and values implicit in going programs. Eighty-one per cent believed that provision for adequate laboratory experiences for all teacher candidates, including practice teaching, was a strong point. Close in order followed these two views: (1) stress of effective teaching methods and procedures (78 per cent), and (2) graduates' understanding of child growth and development (77 per cent).

Two other strengths were identified as "adequate general education for all students" (72 per cent) and "graduates appreciate democracy as a way of life" (68 per cent). Smaller majorities believed that "the graduates understand and accept moral and spiritual values in their own lives" (63 per cent), and that they "understand community life and take active part" (60 per cent). Finally, some 59 per cent believed that emphasis upon mastery of one's subject matter

represented a strength of the teachers' college they knew best.

There were fewer than half (241 or 48 per cent) as many opinions and observations concerning the weaknesses of teacher education programs known by the respondents in comparison with the response for the "strong points." Neither of the two top items received clear majority acceptance. Major weaknesses were seen in (1) "lack of attention to the needs of individual students who wish to become teachers" (50 per cent), and (2) "the perpetuation of traditional subjects and methods" (46.6 per cent). Forty-one per cent believed that "confusing and excessive terminology" employed in teacher education represents a problem or handicap. Three out of eight saw a weakness in failure of teachers colleges to work closely with the schools of their areas of service.

Three other weaknesses were identified by smaller numbers of policy-makers. Exactly 30 per cent thought that some institutions exhibited "undue neutralism" toward teaching of "values." Nearly one-fourth thought that overemphasis upon academic achievement was a weakness of certain institutions. One-sixth of the group suggested a weakness in the tendency of some institutions to produce the "mass mind" rather than independent thinking.

Problems and Needed Next Steps

Two critical problems loomed large in the thinking of the policy-makers of teachers colleges. The perennial concern about adequate financial support was pointed out by 73 per cent of the entire group (administrators, 80 per cent; board members, 62.8 per cent). An overwhelming task was seen by nearly three-fourths of the respondents in the unprecedented growth of public school enrollments and the resulting demands for teachers. Administrators and board members identified this problem to the extent of 76.3 per cent and 72.1 per cent respectively.

Other problems were listed by smaller numbers of responses: (1) difficulty of assembling and holding a competent faculty (40 per cent); (2) lack of research findings upon many phases of teacher education (32 per cent); (3) inadequate or poor public relations (32 per cent); (4) other concerns and problems of the colleges obscuring responsibility for teacher education (20 per cent); and (5) interference or intimidation from pressure groups and vested interests (14 per cent.)

A relatively strong majority viewpoint was expressed upon three "next steps" for teacher education in this country: (1) develop higher standards for the teaching profession (82.1 per cent); (2) seek adequate financial support for teacher education institutions (77.7 per cent); and (3) increase cooperation between teachers colleges and community agencies and groups which have interest in public education (73.3 per cent).

The idea that teachers colleges should study current criticisms of public education with a view to the strengthening of programs of teacher education was expressed by more than three-fifths (62.2 per cent) of all responses. Smaller numbers of responses named three other needed next steps as follows: (1) plan teacher education programs on a five-year basis (37 per cent); (2) promote an improved interpretation of the high quality product of the public school taught by our graduates—the youth of democracy who have done well in peace and war (33.3 per cent); and (3) change all teachers colleges into state colleges (23.3 per cent).

Ideas and Suggestions for Teacher Education

Response to the one truly "open end" query was made by 29 policy-makers who listed 58 items comprising 33 different

ideas and suggestions. Many were clearly relevant to the important task of educating teachers for democracy's children.

Five policy-makers (three administrators and two board members) were interested in identifying and enlisting youth who have desirable qualities and aptitudes for working with children in programs of perparation for teaching. An equal number (three board members and two administrators) reiterated the responsibility of teachers colleges to develop high professional attitudes and loyalties in their students. A third suggestion (three administrators and one board member) pointed to the need for study and support of teacher education by great foundations upon a scale comparable to that given medical education.

Four general ideas mentioned by three respondents included: (1) concern that institutions of teacher education do "quality work" through careful selection of candidates and paced rate of growth toward competence; (2) recognition of the need for "professional educators"; (3) indication of the grave necessity for and (4) suggestion of the need for teacher candidates to develop competence in the processes and skills of group dynamics, socio-drama, and interpersonal relations.

Six "pairs" of responses called attention to proposals varying from the most a better policy and plan of recruiting; "mundane" problems to the "values" aspects of teacher education. Two administrators proposed a review of graduate programs as needed today; two others wanted meticulous overhauling of all curricula to eliminate duplications and material not related to teaching ability; still another pair saw the need for greater stress of "moral and spiritual values." Others proposed: an effort to attract more men teachers into the elementary school; that colleges of teacher education actively seek the help of the school officials in the service area in planning teacher education programs; and that teachers somehow be induced or inspired to honor and to respect their own profession as one of leadership in the community.

Some Brief Observations

Certain consistent trends and generalizations are apparent in the views of both groups of "policy-makers." In some instances, these provide strong evidence of consistency among views upon related items, a fact that lends support to the validity of the responses noted by both groups.

In the first place, the board members expressed a stronger concern about and sensitivity toward public relations problems and opportunities affecting teacher education institutions. This appeared in no less than five items in four different groups of questions; each time the board members reacted with stronger positive positions.

A second consistent view of board members looked upon teacher education as simply one phase or aspect of publicly supported higher education. In effect relatively more board members were better impressed with teacher education in multi-purpose state colleges. This appeared in three items in different groups of questions in the survey.

The third and strongest view held consistently by board members favored a relatively liberal policy of admission for teacher candidates. Two items upon this point were supported by approximately equal opinion.

Those viewpoints expressed most strongly by the administrators were likewise consistently supported in responses to related items.

First, the administrators were more concerned about the responsibility of teacher education institutions to serve needs of their respective service areas. Boards should promote this objective;

the teachers college should foster abilities that would relate classroom programs to the problems and needs of the community; ability of graduates to work with schools of the service area was seen as a strength of teacher education institutions.

Second, the problem of securing adequate financial support for teacher education weighed more heavily in the responses of the administrators. This showed clearly in two items under different headings: inadequate finance was seen as a major weakness; a needed next step was that of securing adequate financial support.

Third, administrators tended to favor some "selectivity" in admissions policies of teacher education institutions. Evidence of this concern for selecting teacher candidates in terms of adequate ability or aptitude appeared in two items.

Finally, administrators stressed the matter of content of teacher education programs more consistently, giving particularly strong emphasis to understanding of child growth and development and of democracy as a way of life.

Concluding Comments

An obvious question is, "What, if anything, do these responses tell us?" The answer is neither immediate nor conclusive; however, some helpful observations can be made. Omitting consideration of the sample, it is clear that a sizeable number of teacher education "policy-makers" in the twelve states are soundly concerned about the responsibility and opportunity that currently faces the colleges of teacher education. Clearly, the group believes that this responsibility is significant and that the institutions represented are indispensably related to the future of American democracy. Obviously, one qualification would have to be added to the stipulation about the inter-relationship of "public education and freedom" (publicly-owned institutions have been known in countries that abrogated freedoms) but the intent of the respondents seems clear. The policy-makers believe that we cannot keep our freedom without commitment to the ideas and institutions of a free society. Furthermore, a strong consensus points to the strategic role of teacher education in the light of the teacher shortage and the unprecedented demands upon public schools. Practically all believe that teacher education is an important job of their institution, regardless of their size or type, and they want students, other than prospective teachers, to be given an appreciation of public education *in* and *for* our democratic society. Further, teacher education needs broader foundations; to the study of the "needs of the learner" should be added "problems of democratic society" and the "enduring values of the race."

Teacher education institutions should have all possible autonomy and freedom but should observe necessary common policies and regulations. There is no question of the merit of the claim of colleges of teacher education for adequate financial support, both their functions and needs being so clearly related to public schools.

Opportunities in teacher education should be presented to secondary school youth. Faculties of teacher education institutions should continue to study personalities of students to discover those with best aptitude for teaching. A good teacher education program would include: (1) "a sound general education"; (2) knowledge of children and of learning theory; (3) good grounding in a subject matter area; and (4) the ability to relate the classroom program to the problems and needs of the community. Ade-

quate laboratory experience for teacher candidates is the commonest observation made about good programs. Weaknesses are not generally observed to apply widely and can hardly be interpreted in the same light as other observations. The need for financial support and the problem of meeting demands for teachers are almost universally upon the minds of the "policy-makers." Finally, the group strongly favors the development of higher standards *by* and *for* the teaching profession.

Thus, a recapitulation of the points supported by consistently strong consensus discloses a challenging list of considerations for the "policy-makers" of teacher education. Here are some of the pertinent matters for action by alumni groups, or the professional and the parent-teacher organizations, and by the great number of citizens councils and commissions for the public schools. Beyond this there are significant issues and suggestions for improvement that merit serious study by all who are concerned about the education of teachers for our schools.

Among the 21,000 holders of secondary school certificates covered by the survey [of women graduates] were many who could teach more than one subject. The following percentages represent the proportions of graduates certified to teach each subject: English, 34 per cent; fine arts, 22 per cent; home economics, 18 per cent; social sciences, 18 per cent; business education, 13 per cent; natural sciences, 12 per cent; physical education, 11 per cent; history, 8 per cent; mathematics, 7 per cent; modern languages, 6 per cent; other, 5 per cent.

Four out of five certificates entitled the holders to teach in one state and most of the other certificates, in two states. About 4 per cent of the teachers among the June 1955 graduates did not have a certificate; a number of these were taking education courses in addition to teaching.—U. S. Department of Labor, Women's Bureau, in cooperation with the National Vocational Guidance Association, Women's Section, *Employment After College: Report on Women Graduates, Class of 1955* (Washington, D. C.: U.S. Government Printing Office, 1956).

Among the nearly 40,000 teachers represented in the survey [of women graduates] about 7 out of 10 were employed in elementary schools. About two-thirds of the 26,000 elementary school teachers in the group were teaching grades 1 through 4, the classes filled with children born in the post-war years. Some of the graduates surveyed were teaching several grades; the figures following show the percentages of elementary school teachers with students in each grade listed: kindergarten, 7 per cent; first grade, 24 per cent; second grade, 27 per cent; third grade, 25 per cent; fourth grade, 20 per cent; fifth grade, 18 per cent; sixth grade, 16 per cent; seventh grade, 7 per cent, eighth grade, 5 per cent.—U. S. Department of Labor, Women's Bureau, in cooperation with the National Vocational Guidance Association, Women's Section, *Employment After College: Report on Women Graduates, Class of 1955* (Washington, D. C.: U.S. Government Printing Office, 1956).

The Master of Arts In Teaching Program: A Survey of Graduates

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WHY do so few male liberal arts college graduates enter secondary school teaching? In some of our better colleges during the past several years only three per cent of the men in the graduating class have chosen to pursue secondary school teaching careers. The figure seldom reaches ten per cent. At a time when good men are so sorely needed, particularly in the public schools, the present generation of liberal arts students apparently feels no compelling attraction toward the teaching profession.

A Dismal Image

What are the reasons? They are probably various and complex but no doubt the most important is the rather dismal image many students carry of the high school teacher. This image may be built on the memory of the student's own unhappy experience with high school teachers, or it may be the result of all he has heard and read of the depressed condition of teachers in recent years. Whatever the source may be, it is a picture of the teacher who is harassed by unruly youngsters, drained dry by an impossible work load, bedeviled by meddling administrators, and paid only a piddling salary by a tax-conscious school board. It is an image of teaching so completely unattractive that it prompts the intelligent college graduate simply to say, "No thanks." Probably his parents and his college teachers hold a rather similar view of teaching and they cannot, in good conscience, give him any encouragement to consider teaching as a career.

But is this picture of the high school teacher quite accurate? Or, to point up the question a little, is it fair to predict that an able man who enters teaching will end up as harassed and bedeviled, as overworked and underpaid as some high school teachers undoubtedly are?

In attempting to answer the question it is necessary to make several assumptions. In the first place, the graduate of a good liberal arts college has a head start: he has had a quality education. He has a good background and has moved in some depth into the subjects he will later teach. Furthermore, if he wishes to teach in the public schools, he normally pursues a year or two of graduate work in one of the several Master of Arts in Teaching Programs. These programs offer him the opportunity to deepen his grasp of subject matter and also give him professional training through course work in education and practice teaching. We can, therefore, assume that because of the quality and intensity of his undergraduate and graduate work, he is well prepared for teaching: he knows his subject matter and he has learned some pedagogy. On both counts he is probably well ahead of the average beginning teacher. And finally, I think we can assume that if he has chosen teaching and has taken these steps to perpare himself for it, he is endowed with a sense of mission and a feeling of dedication. He has convictions

about the importance of education and the role of the teacher in the nation's welfare. He is, furthermore, intelligent enough to realize that idealism needs to be backed up with knowledge and skill; sentimental humanitarianism is not enough.

Now, what set of expectations can he hold as a high school teacher? In an attempt to provide some answers, the staff of the Wesleyan MAT Program has recently asked a sample of its graduates some pointed questions. These men, all former graduates of liberal arts colleges, are now teaching in public high schools. Some began teaching last fall; the majority have one or two years of experience. They were asked to comment in some detail and to make judgments on such matters as teaching load, the quality and performance of their school and its staff, their outlook toward the community, their financial condition, and their plans for the future.

Teaching Load, Tone, and Atmosphere

The typical teaching load of these men involves meeting four or five classes a day, but having three preparations. Admittedly, this is not a leisurely way of life, but instead of feeling harassed, 87 per cent said they were satisfied with their teaching load. Parenthetically, it can be said that these men enjoy, by comparison with many teachers, a lighter and more sensible teaching assignment because they have gravitated toward more enlightened systems.

Ninety-three per cent of these young teachers rated the tone and atmosphere of their school as good or very good, and an almost equal proportion similarly rated the responsiveness of their pupils. They expressed satisfaction over the general behavior and attitude of pupils in the school, the competence of their colleagues and the work of the administration. When asked to comment on the amount of freedom they felt they had in the classroom, they replied overwhelmingly that they were free to teach in whatever way they wished. A typical comment runs, "The curriculum is established basically and generally, but it is more a guide for those who wish it than something which must be followed. There is complete freedom within the classroom, innovation is welcomed and encouraged, curriculum improvement is discussed and put into reality. Couldn't be better over-all!"

What special pressures do these teachers feel? Some 50 per cent replied that they sensed no particular pressure, but the other half reported pressures of two kinds. One of these was the burden of non-teaching duties—clerical details and extra-curricular activity. The other was the evident and deep-seated concern of parents to see that their children were prepared for college. A teacher in suburban New York feels strongly about this: "The bulk of this community want only a college preparatory curriculum. The school is measured by the community solely on how well it does in getting its graduates into high-grade colleges, yet perhaps 20 per cent of our students are not capable of college preparatory work. Constant failure on the part of this group causes serious emotional disturbances."

Community Attitudes and Salaries

Few of these men have been in their communities long enough to develop any sense of rootedness, and their judgment of their communities is largely impressionistic and tentative. More than 85 per cent are favorably impressed with both the social and intellectual atmosphere of the towns and cities in which they work, and about 75 per cent report they are satisfied with community attitudes toward the school and its teachers. Here is one comment: "One thing that impresses me here is that the pro-

fession has the prestige and dignity which it deserves. The community regards both education and teachers with respect."

Salaries range from $3000 for a beginner in a small Vermont town to $5700 for a man in his second year in Westchester County. Married men with children are pinched financially and slightly over 70 per cent of these are working an average of 10 hours a week at part-time jobs (chiefly extra teaching or tutoring) during the school year. It is evident, however, that salaries are improving. The median beginning salary for those who entered teaching this year is $4100, and a significant proportion of all our graduates report that maximum salaries in their towns are now $7000 or better.

Do these men plan to continue teaching or to become administrators? Sixty-five per cent said they wanted to teach for some years and then be given the opportunity to move into administration. On the other hand, one of the most able men in the group, when asked if he intended to become an administrator, replied, "Decidedly not. If the taking of the courses required for a principalship didn't finish me, six months of report making and activity-coordinating would." Not one of the group has plans to leave the field of education.

It would be gross distortion to suggest that all of them are fully content. Their chief irritations are, however, over little things, and for some these build into big irritations. "Rarely, if ever," says one, "have I heard a teacher complain about his teaching load; it's the activity periods, the corridor duty, and the clerical load that oppresses and frustrates him. We do not have time in the midst of reports, registers, and club periods to concentrate on marking and preparation." Such irritations, combined with the financial worries of the beginning teacher with a family, are the chief sources of anxiety.

Built-In Guarantee

This study, nevertheless, revealed that these teachers are, on the whole, satisfied with their jobs, their schools, and their status in the community. One of them now teaching in suburban Chicago sums it up this way: "I am completely satisfied with my job because the staff here is composed of people devoted to their work and intelligent in their approach to improve it. The attitude of the student body toward the teacher could hardly be better. All in all, I can think of no other profession which offers the built-in guarantee for remaining intellectually, emotionally, and spiritually alive."

This is scarcely the dismal image of the teacher so often pictured. The able liberal arts graduate can, apparently, find both challange and satisfaction through teaching in the public schools.

What happened to teachers who were employed in Kentucky during 1954-55:

Total teachers employed in 1954-55	20,864
Total leaving positions before 1955-56 term	3,464
Number who left the profession	1,648
Number going to other teaching positions	1,816
Number going into other Kentucky systems	845
Number going into other state systems	971
Number leaving for increase in salary	994

What Happens To Teachers in Kentucky?, Kentucky TEPS Commission.

The State Colleges of California: Projected Growth

THE unprecedented growth of California has brought record enrollments at all levels of its educational structure. California now has a population of more than thirteen and a half million people. This population is continuing to grow at the rate of 1,000 new residents each day. By 1965, the population will total more than sixteen and one-half millions; and by 1975, the total will reach 21 million. California has doubled its population every 20 years since statehood. This trend is reflected in the rapidly increasing school and college enrollments.

It took California 90 years (1849-1940) to enroll the first million pupils in its public schools, and 13 years (1940-1953) to enroll the second million pupils. It is estimated that within the seven-year period, 1953-1960, California will enroll the third million, and that within the subsequent five-year period, 1960-1965, California will enroll the fourth million.

As a result, the average number of high school graduates will increase from 96,000 in 1955 to 189,800 in 1965. The enrollments in the state colleges will increase more than three times between 1955 and 1965.

The establishment of the California state colleges began in 1862 with the first normal school.

The primary function of the state colleges is the preparation of teachers. State colleges also may offer courses appropriate for a general or liberal education and for responsible citizenship; offer vocational training in such fields as business, industry, public services, homemaking, and social service; and offer the pre-professional courses needed by students who plan to transfer to universities for advanced professional study.

California now needs 17,000 new teachers each year for its public schools. With all 38 accredited institutions in the state preparing only half that number, it is essential that the state colleges continue to place primary attention upon teacher education.

Enrollment growth in the state colleges has been remarkable, as reflected by the following figures: 1930-31, 5,762; 1934-35, 6,927; 1940-41, 10,371; 1944-45, 4,559; 1950-51, 25,241; 1954-55, 31,269. Estimated enrollments for 1956-57 are 48,000 full-time equivalent, regular students. By comparision, the University of California will enroll approximately 40,000 students. Estimates of future enrollments of the state colleges are as follows: 61,000 students in 1959-60; 83,000 students in 1962-63; 92,000 by 1965-66; and 96,000 by 1966-67.

State colleges are now projecting their educational programs ahead for the next ten years. This detailed planning holds great significance for the financing, housing, staffing, and general functioning of each state college.

A five-year building program for the state colleges has been recommended to the legislature at an estimated cost of $201,465,737.00.

At least $60,000,000 of a recent $200,000,000 bond issue will be available for capital outlay by the state colleges.

—*J. Burton Vasche*
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Toward Improving the Function of Curriculum Consultant

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A QUARTER of a century ago the curriculum consultant was practically unknown.[1] In fact, the *Dictionary of Education* of 1945 suppiled no definition of the term "curriculum consultant." Even though the term enjoyed rather wide use in oral discussions, prior to January, 1948, the *Education Index* listed no reference employing the term "educational consultant."[2] Owing in part to the newness of the concept and to trial and error development of this service, not very much is known about how the curriculum consultant should function. Morphet says, "The time has arrived for all of us to take a good look at the problem of the consultant."[3]

Partly because of a belief that the expert knows best how to utilize his time in action-research situations, little or no attention was given to planning for use of his time and services. Only now are educators beginning to analyze and develop this function as a professional service. Some systematic study of the function of curriculum consultant has been undertaken by such groups as the California Association for Supervision and Curriculum Development, the Adult Education Association, and the Midwestern Administration Center.

The Increasing Use of Curriculum Consultants

The increasing use of the curriculum consultant may be attributed to several factors. Chief among them is the phenomenal complexity of contemporary society and the concomitant intense specialization. Consequently, educators may be thwarted by a problem requiring specialization beyond that possessed by any member of the group or the group as a whole. This intense specialization tends to smash the illusion of "self-dependency and independence which imply that an individual or group is inadequate if it seeks help."[4] Other factors which seem to lead to increasing use of the curriculum consultant are public demands for improved schools, needs for in-service teacher education, and the changing character of the problems of children and youth in a dynamic society.

As already implied, the nature of certain problems seems to demand the curriculum consultant for more intelligent solutions. In a local system educators and laymen may be too close, too emotionally involved to be objective and impartial. The curriculum consultant may draw out or supply ideas which can

[1]Marcella R. Lawler, "Raising the Level of Consultant Service," *Educational Leadership* 5:445-50; April 1948.

[2]W. C. Reavis, "Place of the Consultant: School Administrator Needs the Expert for Special Problems," *Nations' Schools* 41:24-5; April 1948.

[3]E. L. Morphet, "What Is a Consultant?" *School Executive* 72:9; December 1952.

[4]F. L. Anderson and B. Shangold, "Role of the Consultant in Adult Education," *Adult Education Bulletin* 14: 111-20; April 1950.

best be posed by an outsider. Indeed, he may educe from the group (or bring to it) ideas which otherwise might take years to reach the heart of the community.

A consultant may be sought to assist a group in locating and defining problems; to help evaluate a program; to aid a group in choosing among several alternatives when the group does not possess adequate background facts to make an intelligent choice at the moment; to assist a group in determining "next steps." The expertness of the consultant may also be employed as criteria by which to evaluate a position taken on critical issues.

All in all, increasing use of the curriculum consultant is designed to provide more highly effective education for children and youth in the schools.

Concepts of Curriculum Consultant

Certain popular concepts of "curriculum consultant" probably explain the type of service he formerly rendered. A teacher once defined a consultant as "one who blows in, blows off, and blows out." A Kansas principal is credited with this concept of a consultant: "One who enters a meeting too late to know what has gone before, disagrees with everything that has been said, then slips out before hell breaks loose."

Little says a consultant is "any person whose counsel is sought in connection with an educational problem."[5] Reavis supplies a more adequate concept: " . . . educational consultant refers to a person who is called into conference regarding a problem or project in education on which special assistance or counsel is desired. It is assumed that the consultant possesses technical knowledge and experience pertaining to the matters on which he is expected to provide assistance or give advice."[6]

Traditional Expectancy Level of Consultees

Of course, the general traditional expectancy level of consultees varies from group to group, but all too often it is an unsophisticated one. First of all, consultees may be despondent because of failure to find value in earlier attempts to utilize consultants. Like Doubting Thomas, some may bring the Missouri attitude. Other consultees may have sought a problem for the consultant rather than having a real problem of their own. In this case, they may expect a speaker or someone to entertain them rather than assist them in solving a real problem. If a problem has been located and defined, some consultees expect easy, ready-made answers. Usually they are disappointed where they obtain nondirective guidance. Consultants are not wholly blameless in the matter of creating dependency upon them. All too often they have concentrated upon solving the problem instead of helping consultees to learn how to solve their own problems. Preoccupation with solution-finding no doubt leads to a dependency relationship rather than an interdependent or independent one. Consequently many consultees expect to fold their arms, relax, and listen to the oracle. Sheats states the situation graphically: "Through long conditioning, people who call in a consultant have learned to expect to stand aside as they would for a plumber and let him fix things up. This is a handicap to the consultant and, of course, to the group."[7]

The Function of the Curriculum Consultant

The chief function of the consultant is the development of leadership and

[5]W. Little, "Making the Consultant's Service Serve," *Educational Administration and Supervision* 38:480-85; December 1952.

[6]Reavis, *op. cit.*, p. 24.

[7]Paul H. Sheats, "Adult Education as a Consultant: Some Observations from the Field," *Adult Education Bulletin* 14:131-35; June 1950.

action which result in better schools. In such a function the consultant becomes an educational engineer—directing the lives of human beings, a task requiring great skill and high integrity. Miel says the consultant should be "an expert in social processes with particular reference to social change."[8] In this role the consultant-consultee relationship involves interchangeable responsibilities and functions.

Often the consultant sensitizes a group to problems which may have crystallized in aggression or frustration. This involves self-analysis and the formulation of hypotheses which truly represent group creativity. The consultant should be vitally interested in helping school personnel and laymen achieve increased skill in group process to the end that they grow in the ability to locate, define, solve, and implement solutions to common problems through group endeavor.

Anderson and Shangold have this to say:

> . . . People tend to avoid responsibility for making and carrying out action-decisions which are not intrinsically theirs.
>
> A major goal of consultation is increased capacity on the part of the consultee to cope with new problems. The consultee should be helped to understand *methods* of problem-solving, as well as helping to solve the immediate difficulty.
>
> The development of capacities and skills in problem-solving requires that the consultee go through the processes by which the solution was originally derived.[9]

Certainly, the function of consultant is a difficult one, demanding competency in technical knowledge coupled with theory and practice in action—research and interpersonal relations. This should be buttressed with knowledge of the milieu in which his service is used. He should also know the kinds of knowledge required of him and should possess the ability to diagnose the kind of assistance to be supplied. Furthermore, he should be sensitive to the hazards of too much or too little consultation. His is a delicate function which can only be adequately determined by the needs of the consultees.

Preliminary Planning

In order to exploit consultant service fully, consultees should make a preliminary analysis of their problem. They should talk their problem out so that it may be clearly stated. In this way the group senses a need for a consultant before he comes in. Consultees should be as definite as possible about the assistance they desire from the consultant. Suggestions should be formulated as to where, when, and how he may best serve their needs. Consultees may then realistically ascertain what assistance they should expect. Some means of determining progress towards goals should also be formulated.

The group should select the consultant. This is done by asking: What skills, attitudes, abilities, appreciations, and information do we need in order to solve our problem intelligently? Who possesses the necessary equipment to help us solve our problem intelligently? Is this the most competent consultant we can secure in terms of our resources?

Ideally, the consultant and consultees should engage in collaborative assessment of the problem situation. This involves cooperative exploration of goals and possible solutions. This exploration should probe beyond the surface of the problem and into the deep motives for entering the consulting relationship. The school-community framework and limitations within which the group must work should be clearly understood. Definite expectancies of consultant and con-

[8] Alice Miel, *Changing the Curriculum* (New York: D. Appleton-Century Company, 1946). p. 131.

[9] Anderson and Shangold, *op. cit.*, p. 117.

sultees should be delineated. In this preliminary conference the consultant seeks to discover the perceptual fields of consultees; he does not attempt to impose his own perspective.

If the consultant cannot attend a preliminary meeting, consultees should supply him with a clear statement of the problem, any tentative solutions already developed, and suggestions as to where and how he may best satisfy their needs. Data regarding the school and its community should be included so that the problem may be seen in its social, economic, and political setting. If these steps are taken, the consultant does not come into the situation without opportunity for advanced planning.

If he would determine effective ways to help consultees become more competent in solving their own problems, preliminary planning by the consultant is imperative. This involves studying and accepting the people and the community to be served. He studies ways to help consultees achieve peer status and maintain emotional security in the face of change. Beyond this he engages in assimilative research in terms of the people, the problem, and the school-community situation.

Formulation of Solutions

The consultant leads consultees into cooperative reassessment of goals and possible solutions. This is done after new data and new insight have been brought to bear, and the consultant has supplied specific or technical information. Despite his expertness, the consultant should make no attempt to impose his solutions upon the group. Since his chief goal is to assist consultees in developing increased skills in problem-solving, he may ask: How may these facts be applied in this situation? He should scrupulously differentiate between fact, truth, and his opinion.

Evaluation

Consultees should re-think their experiences with the consultant and use facts and principles to evaluate his service. The consultant may ask: To what extent have I fulfilled the purposes for which I was summoned? What else may I do to render the services desired? He should urge a permissive atmosphere for trying out group-derived solutions.

Follow-up

An ethical question is generated when a consultant serves without responsibility for the consequences of his advice and help. Therefore, when he has returned to his institution, he should think through the problem he attempted to help solve. As a result of subsequent study and research, he refines the information and suggestions provided on the spot. Then he may follow-up with a letter or memorandum even if he is not otherwise required to do so. In this communication he makes clear and more meaningful the suggestions already made. Recommendations should be based upon facts and principles derived as a result of unbiased research and reflection. Among other things, he may urge application of suggestions as soon as possible.

Besides adding vitality to his research and teaching, the consultant may help improve the schools which supply colleges with students and help in the in-service education of college graduates. In so doing he renders a larger service—a service which transforms him into an agent of a great social purpose.

The Leadership Role of the State Teacher Education-Certification Officers

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Part I of the abstract of Dean Herge's dissertation, STATE DIRECTORS OF TEACHER EDUCATION AND CERTIFICATION: A STUDY OF THE NATURE OF THEIR DUTIES AND RESPONSIBILITIES *appeared in the December 1956 issue of the* JOURNAL OF TEACHER EDUCATION. *It presented an evaluation of the leadership role of the State Directors of Teacher Education and Certification. Part II describes the status and analyzes the functions of these officers.*

The abstract of this significant study in the field of teacher education is another in the general series published under the title of "Commission Studies in Teacher Education."—EDITOR.

PART II

Status Account of State Directors in 1955

Age. The typical state director in 1955 was a married man of about 49 years; however, within the group of 45 respondents there were seven women.

Education. Each of the 45 participants in the study reported college education. Eleven had earned doctorates, and ten were enrolled in doctoral programs. Twenty-seven directors had acquired master's degrees, but six had no earned degree higher than a bachelor's degree. One reported no earned degree but an accumulation of college credits in excess of 128 points.

Of some significance, perhaps, is the fact that the typical state director in 1955 was a liberal arts graduate. Directors with undergraduate majors in professional education were decidely in the minority; however, in contrast with undergraduate preparation, the average director was one who had concentrated in some phase of teacher education such as school administration or supervision. There was a marked variation in the amount of directors' collegiate preparation and in the number of academic degrees held.

Scope of Duties and Responsibilities. Twelve directors reported that they had responsibilities for both teacher education and certification; 12 other directors had duties limited to the certification of teachers; five had direction of teacher education only; and the remainder (16) had assignments indicating a gamut of responsibilities, some quite unrelated to teacher personnel services.

The holding power of the position of state director was shown to be affected primarily by low salary schedules operative in many states. For example, the typical state director's salary in 1955 ranged from $4,800 to $13,000, but the national average for the total group stood at $7,416, with an anticipated maximum, under the schedules then in effect, averaging $8,144. Clear evidence of the lack of holding power of the position is the fact that approximately 30 state directors have moved on during the past five years into assignments that, in most instances, were more lucrative.

The state school systems represented by respondents varied greatly in size, facilities, financial support, personnel, and objectives.

Work volume was also a variable. It was generally assumed that a close relationship exists between the size of a central office staff and the size of the teacher group to be served by that staff. Nearly 50 per cent of all respondents signified that they were attempting to fulfill their responsibilities with inadequate help, especially secretarial.

Eleven directors reported that they had no professional assistants. One director reported 18 professional staff members (the highest in the range), the average being three.

As for secretarial staff, four directors reported having only one person each. The average number employed was approximately eight, with an upper range of 38 and a lower range of one.

Many other variables existed among state departments of education. Significant differences, for example, appeared in (1) the number of institutions and programs approved for teacher education, (2) the number of teachers' certificates processed annually, (3) the amount of budgetary appropriations allotted, and (4) the kinds and degrees of services rendered by individual directors.

Again, in terms of variables, it is interesting to note that 12 respondents reported that no fees were charged for the certification process, inasmuch as it was considered a service to teachers in their states.

An interesting trend appeared to have developed in that eight states which required fees for certification have arrangements that do not make it necessary to place "accounts receivable" in the state's General Fund. In two states this income was being used to bolster education.

Examination of the budgetary support for leadership activities of state directors indicated that only a few respondents were able to carry out their many functions with expediency. This indication was demonstrated by the fact that most directors did not have budget distributions for other than routine activities. Typical comments of respondents showed a general disregard of the need to undergird leadership activities in the office of the director.

Included in the questionnaire at the suggestion of several members of the National Association of State Directors of Teacher Education and Certification was the optional question: "What are the conditions or satisfactions in the work of the state director that make life interesting and motivate you to carry on?"

Despite a keen awareness of the complexities of their work, 29 directors voluntarily submitted individual responses to this question. Only one dubious director gave a qualified response; all others voiced vehement expressions of optimism in regard to what they hoped to achieve in the future. Their faith in what they are attempting to do is perhaps best illustrated by a characteristic stress of such factors as:

> . . . the development, for the first time of a spirit of cooperation between state and private colleges; the fine way in which all colleges have accepted our attempts to be helpful and to make state accreditation mean something; the growing interest of classroom teachers in problems of certification and standards; and the tendency on part of administrators to work more carefully and thoughtfully in selection of teachers . . .

Experience. For the 45 respondents, the average period of employment in state service was 9.6 years, with a range from two to 32 years. The data also showed that directors averaged 7.3 years in their present position. The total salaried experience of all state directors was reported to be an average of 26.6 years, with a range of 8.2 to 46 years.

Of the total group of participants, 22 had had paid business employment, other than education, which averaged 3.3 years and ranged from one to 15 years. In the total group 22 had had military duty, ranging in World War I from those who served in an enlisted status to several who held officer rank in World War II, the highest rank being that of full Navy Commander. These 22 averaged 2.5 years of active duty in the armed services during the two war periods. Interestingly, these directors all reflected strong feelings with respect to values derived from a variety of specialized training experiences received in service.

Eligibility for State Certification. One of the frequent criticisms of faculties of teacher preparation institutions is the inability of certain staff members to qualify for state teacher certification. This criticism cannot be applied to state directors, inasmuch as every

one of the 45 respondents reported himself as qualified for or a holder of one or more certificates in his state.

Additional Preparation Needed. Each respondent suggested at least one idea as to "other training or experience" considered essential for success in administering a state program in teacher personnel services. Characteristic answers were these: (1) a strong background in general education with emphasis upon psychology; (2) business office experience or commercial training; (3) some law background; (4) experience as a member of a faculty in a teachers college; (5) more courses in professional education, especially curriculum building and revision; (6) some study of patterns of teacher preparation across the nation; and (7) courses that deal with the administrative aspects of instructional leadership.

Improving the Educational Program. When asked to review the record of his activities for the past five years and to list what he considered to be his most significant contributions to the advancement of the teaching profession, each respondent reported projects which clearly demonstrated that the modern director no longer considers his successes to lie in areas which are primarily inspectoral, regulatory, or operational. Replies demonstrated clearly the fact that the modern director, regardless of responsibilities assigned to him under state statutes or by delegated authority, considered his work to be chiefly that of leadership, consultation, coordination, and encouragement.

Professional Activities and Leadership. Forty-one directors reported active membership in 189 voluntary educational associations; 45 signified active membership in one or more honor fraternities, the two enrolling the greatest number being Phi Delta Kappa and Kappa Delta Pi.

Several directors during the past five years appeared to have made significant contributions to the teaching profession through a variety of leadership projects; but the majority were frank to admit that they were hampered by the pressures of their duties from engaging fully in independent writing, research, or leadership activities. Fifty per cent of all respondents stated that they had published articles periodically but not consistently during the five-year period. Four particular directors, however, demonstrated to the satisfaction of the writer, mainly through the frequency of their articles in recognized journals, that they had earned national reputations. Nearly all directors had engaged in public speaking activities and in serving as consultants or as executive secretaries to many voluntary or state associations interested in public education.

Inventory and Appraisal of Directors' Activities

Techniques Employed. This portion of the study was structured to give major emphasis to the means for improving the effectiveness of state directors. This was accomplished through involving respondents individually in an evaluation of a wide variety of major professional activities, ranging from those situations that prevented them from making most efficient use of their time to those which were rated "most valuable" or "worth trying". This involvement of each participant enabled the writer to report the findings of total group thinking and reactions.

More specifically, in one part of the data-gathering instrument, there were 15 major categories, subdivided into 104 leadership activities, representing all conceivable practices in which directors and their staffs might be involved in fulfillment of their assigned responsibilities.

In tabulating the findings, the writer reported three important aspects of each activity item: (1) the per cent of the 45 participants for whom the activity was "current," (2) the per cent of those who were using it and who rated it "valuable," and (3) the per cent of those for whom the activity was *not* being practiced, but who regarded it as "worth trying." At the end of the questionnaire there were two units in which the 15 major categories of activities were reappraised. One had to do with "actual" and "desired" time involvement, the purpose being to have each respondent signify the amount of time he expended, and then to rank his investment of time in each activity. The other was to determine the amount of time each director spent in different working combinations.

The questions raised as a result of the tabulations were these:

1. What were the activities that were rated high, both in frequency of use and in value?

2. Were there activities frequently reported as "current" which were not generally considered "valuable"?

3. Were there activities rated low in prevalence which were considered "valuable" by most of those reporting the practices?

Rated high both in frequency of practice and in value were 12 activities, as follows:

1. Establishing procedures whereby representatives of the organized profession may participate in planning and appraising the rules and regulations for state teacher certification.

2. Securing and maintaining accurate and complete teacher personnel data for the state.

3. Fostering procedures which encourage teacher preparation institutions to enter into close working arrangements with the state certification office, thus strengthening certification standards for improvement of the profession of teaching.

4. Requiring both publicly and privately supported institutions which prepare teachers to undergo the same procedures for state approval.

5. Appraising criteria for accreditation and for certification periodically and systematically and recommending refinements.

6. Insuring members of the profession, personnel in teacher preparation institutions, and legislators of your sincere desire to be of service to them in answering questions related to the whole field of teacher education.

7. Advising state board of education concerning all aspects of the state's program in teacher education.

8. Informing regularly all interested persons of teacher supply-demand needs.

9. Working with the state association in constructive efforts to strengthen teacher welfare.

10. Guiding and advising state councils on teacher education in efforts to bring about cross-fertilization of ideas.

11. Creating a climate of helpfulness on all occasions.

12. Participating in educational conferences and studies at regional and national levels.

Seven activities were found to be questionable. Accordingly, directors were encouraged to view with doubt the value of continuing the following activities reported "current" but rated "low" in terms of usefulness:

1. Establishing annual quotas in state-operated institutions for numbers of students to be prepared in each field and in each curriculum.

2. Motivating personnel in the office of state director to be informed continually of best practices in teaching and teacher education through a department-financed system of visitation.

3. Reviewing problems that continue to be unresolved and determining a course of action.

4. Stimulating experimental efforts in each of the approved institutions.

5. Selecting and recommending certain teachers for appointment.

6. Maintaining a cumulative file of community resources available to teachers.

7. Addressing and/or attending faculty meetings in the several approved institutions.

Careful analysis of the ratings submitted revealed 15 activities which were *not* widely prevalent but which were considered "valuable" by most of those engaged in the practices, the inference being that these activities warrant wider adoption:

1. Employing a system for state accreditation of institutions which involve state, regional, and professional representatives.

2. Implementing the establishment at each institution of a center for child study.

3. Supervising and coordinating pre-service student teaching programs of all approved institutions.

4. Motivating personnel in the office of the state director to be informed continually of best practices in teaching and teacher education through a department-financed system of visitation.

5. Circulating a roster of available speakers for recruitment purposes.

6. Planning facilities for state-supported institutions in keeping with anticipated needs.

7. Gathering resource materials for teacher use.

8. Arranging annually a challenging program for all faculties of state-operated institutions in an effort to improve programs in teacher education.

9. Making recommendations for instructional facilities for teacher education in state board of education budgets.

10. Promoting curriculum planning in each separate department of each institution.

11. Maintaining individual files for teacher placement.

12. Arranging conferences at different college campuses in order to bring about closer working relationships.

13. Operating a monthly news bulletin for state-wide distribution to the profession and to teacher preparing institutions.

14. Assisting boards of education in efforts to build sound personnel policies.

15. Demonstrating best classroom practices at teacher education clinics and at lay-professional conferences.

Ways of Working. Directors were asked to react to various kinds of activities in terms of the amounts (much, some, little, none) of time they give both actually and ideally in working alone and with a variety of groups and individuals. The findings form part of a consistent pattern.

Most directors showed major time involvement in eight working combinations. Responses indicated that directors would alter their time investment, if working conditions were ideal, as follows:

I. Directors desired *much more time* for these working combinations:
   A. with representatives of the organized profession through committees.
   B. with administrative officers in institutions approved for teacher education.
   C. with voluntary agencies concerned with improvement of teacher education.

II. Directors desired *slightly more time* to devote to these combinations:
   A. with students in preparation for teaching
   B. with regional committees appointed by the chief state school officers

III. Directors desired *less time* than they are presently required to give to these combinations:
   A. with individual teacher applicants
   B. with central office staff
   C. working alone.

Conclusions

The next decade has promise of becoming the most crucial in the history of education in America. While educational functions and services will continue to expand further, the great need for improving the quality of education will be brought into focus. Obviously, little may be achieved of a lasting nature if teachers, school systems, associations, and institutions choose to work separately. The improvement of a state's education program, then, will, in large measure, depend upon the individual—the state director—whose duties and responsibilities call for elevating the effectiveness of the teaching profession and for improving and spreading the services rendered by the state educational agency. Obviously, the caliber and the competences of the state director will need to be of the highest order if the state is to achieve its goals of an improved state program of teacher personnel services.

A few fundamental conclusions, based upon interpretations of data gathered in the study and buttressed by the literature and studies cited, are the following:

1. Although the literature reported that between 1898 and 1940 there had been a very significant national trend toward centralization of authority for teacher certification in the state educational agencies, a subsequent trend toward the creation of central units for coordinating all teacher personnel services under a single, responsible officer has developed to a lesser extent, and since 1950 appears to have become static.

The data show that at the present time there are many states in which responsibilities for institutional accreditation and state approval of programs in teacher education, the administration and coordination of teacher education and certification, as well as such related areas as teacher recruitment and selection, employment and placement, retention and promotion, retirement and pension, and welfare have been assigned to different individuals at different levels of administration within state departments of education. This type of organization fails to translate the needs of the teaching profession and invariably results in a breakdown of communication, in diffusion of energy, and in duplication of effort. The proper allocation of responsibilities within a single division contributes to a department's administrative efficiency in that each individual may make an important contribution as he develops a high degree of competence in his assigned areas.

2. The data indicate further a marked interest on the part of directors who participated in the study in concentrating their energies in order to raise the level of professionalism in the teaching corps, and in marshalling the forces of teacher groups and institutions in activities focused directly upon improvement and evaluation of teacher education, certification, and accreditation. Por-

tions of Section III of the data-gathering instrument revealed that directors were consistent in their desire to be unfettered in their administrative operations in order to work more freely with teachers, educational organizations, training institutions and lay citizenry. The many activities, rated both current and valuable, signified that director's duties and responsibilities were broadly conceived and broadly administered.

3. With respect to the professional qualifications of state directors, there appeared to be no uniformity. In view of the importance of this educational post in the twentieth century, it becomes imperative that qualifications of directors be equal to the most highly qualified administrator of higher education in the state. Directors should be appointed through state civil service procedures, with eligibility for tenure right. Their salary should be commensurate with salaries paid to comparable educational administrators in the state.

4. A majority of the respondents reported that they were attempting to fulfill their duties and responsibilities with inadequate help, both professional and clerical. The lack of adequate secretarial assistants has demanded time involvement of directors in routine office duties, which, if conditions were corrected, could normally be assigned to staff, thus freeing directors for educational pursuits of a more important nature.

5. Inadequate division budgets have made it quite impossible for most state directors to fulfill their leadership functions both in-state and at the national level. Providing the environment and financial means for creative leadership is the obligation of the state board of education. Important stimuli to success in the development of sound state programs in education are interest and financial support. Both are necessary if the state director is to be free to direct the way in building a profession in education.

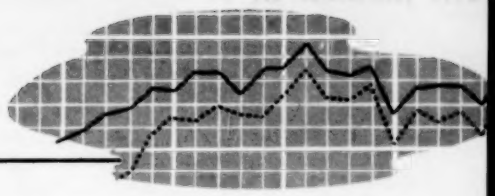
The inescapable fact about the future of education beyond the high school is that in 1956 almost twice as many children will be born in the United States as were born in 1936. Already more people than ever before are attending the Nation's colleges, universities, and other post-high school educational institutions, yet the impact of the greatly increased birth rates of the past 15 years will shortly strike, and will be felt with mounting intensity each year as far into the future as we can foresee. Moreover, the pattern already emerging in our society will necessitate that a much higher percentage of this vastly increased population receive education and training after high school. In fact a 75 per cent increase in professional and technical personnel is predicted by 1975 along with a 25 per cent decrease in laborers. Simultaneously the greater income available to many families will increase the incentive and provide the means to pay for the education of more young people.—*First Interim Report to the President,* The President's Committee on Education Beyond the High School, Washington, D. C., November, 1956. p. 1.

One of education's most serious problems lies in the provision of adequate numbers of qualified instructional personnel. In 1956-57, about 1,258,000 teachers, principals, and supervisors are being employed in the public elementary and secondary schools. This is an increase of some 55,000 over last year.

- About 1 classroom teacher in 15 does not hold a "regular" teaching certificate. Since 1953-54, about 80,000 emergency or substandard classroom teachers have been hired annually. It is estimated that about 50 per cent of these teachers would not qualify for regular certificates.
- During the current year, about 92,000 teachers will *drop out* of the profession. Another 12,000 will move from state to state, usually for the purpose of improving their economic status.
- Overcrowding of classrooms is so widespread that it would take about 40,000 teachers (based on 1956-57 conditions) to relieve the situation.

Advance Estimates of Public Elementary and Secondary Schools for the School Year 1956-57, NEA Research Division, November 1956.

With the Researchers



DOUGLAS E. SCATES

A Tribute To Ignorance

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In a number of fields of scholarly work, the emotional or "feeling" side of life is being given respectful attention. One world-famous philosopher is credited with the conviction that man uses his reason basically to help him live for non-rational ends. The present paper, while springing from a separate line of thought, emphasizes the necessity for drawing upon something more than man's intellect—and its rationally restricted cognitions—if man is to have a more real understanding of himself and of life in this environment.

Representing in somewhat distilled fashion the unusual flavor of Zen Buddhism, the present paper embodies a point of view, the full meaning of which may not be apparent at first reading. The flavor, however, lingers and teases. The conception of knowledge, and of research, in this frame of reference will probably serve far more than most statements of this length to start one's thinking—to strain, and possibly weaken, the tight shackles that confine one's perspective within the limits of a formal scheme.—DOUGLAS E. SCATES, RESEARCH EDITOR.

CLYDE Kluckhohn pointed out that if a visitor from a "primitive" country, with anthropological training, studied our culture, he would consider many of our cherished beliefs to be superstitions.[1] Such a person would most likely find our attitude toward knowledge a curiosity. How do you suppose he would react to the claim that knowledge (multiple explanations of reality expressed in symbolic form), a commodity secured by the intellect, automatically liberates human beings? I believe this would strike him as a quaint notion which, because of the grip it has upon our minds, holds us in bondage.

It is not necessary to depend upon an imaginary anthropologist to underscore the point. A look—through the eyes of an unlettered person—at the array of words and ideas referred to as "knowledge" will achieve the same result. Unsophisticated people are skeptical about the liberating properties of formal learning. Although these doubts remain unexploited (who listens to the untutored?) they often contain wisdom. The scholar's concern for words, or the scientist's obsession with abstractions, while neglecting everyday things of touch, taste, and smell, has impressed the unschooled as strange. Before dismissing this view as an idle impression of incompetents, one may wish to consider the large number of simple people who outstrip the "learned" in their understanding of the concrete things of life. These individuals are completely at home in the world. Their calm assurance stands out

[1]Clyde Kluckhohn, *Mirror for Man* (New York: McGraw-Hill Book Company, 1949) 313 p.

against the nerve-stretching background of the contemporary scene. These naive-wise people, innocent of knowledge in a bookish sense, tacitly serve as reminders that the prevailing, traditional disposition of near-reverence for academic studies (knowledge) overlooks something essential. This "essential" element, if it did not invite misunderstanding, I would call "truth."

Truth and Freedom

The following assertions, while not defining "truth," elaborate upon it by saying what it is not. "Truth" has not become apparent by way of the philosophic or scientific explanations of reality now in existence. Furthermore, human intelligence can be exercised to the limit without uncovering it. Without "truth" freedom is impossible.

It follows that those who seek liberty through knowledge, knowledge being a product of reason, erect a barrier between themselves and their quarry. Do not, therefore, assume this liberating force resides in a distant place. Every individual sleeps with it at night, arises with it in the morning, enjoys its companionship with every meal and becomes a partner with it as he works—if he will but become aware of its presence. Such awareness is available to men through the advancement of ignorance. Please don't misunderstand! This does not mean clinging to the little stupidities which haunt our every step. No. Men will not escape from petty blindness, the breeding ground of fear, unless they cultivate, on a grand scale, the necessary ignorance for understanding that they do not have the power to know or explain reality. When through experience they master this lesson without aid of philosophic or scientific theory, reality ("truth") may reveal itself to them. Lao-tzu, the Chinese sage, showed how to penetrate the supreme secrets when he declared men must destroy knowledge if they will know "truth." The Zen master Hakuin goes to the heart of the matter in this poem:

> All beings are from the very beginning the Buddhas.
> It is like ice and water:
> Apart from water no ice can exist.
> Outside sentient beings, where do we seek the Buddha?
> Not knowing how near Truth is,
> People seek it far away. . . .
> They are like him who, in the midst of water,
> Cries imporingly for a drink.[2]

The foregoing, seemingly bizarre, statements may have raised some confusion in the mind of the reader. Before going on let me check the possibility of misinterpretations. Notwithstanding the prevalence of the long-running debate, with frequent references to knowledge, between "traditionalists" and "progressives," do not infer that in this paper the cudgel will be wielded for either side of this dispute. Nor will the bromide, "Ignorance is bliss," be given a fresh stir. Neither does the preceding intend to imply all unlettered individuals have access to an earthy tutelage which substitutes for their lack of formal schooling.

One more warning. Some startling things have been said about knowledge. These may sound unnecessarily sharp and dogmatic. Bear in mind these are not intended as legs of an argument but are designed to draw attention to an enigma. Under the guise of developing the higher potentialities of men, the intellect has been assigned a task which outstrips its competences. Not only has reason been expected to explain reality ("truth"), but the products of the human mind, in symbolic form, have often been treated as reality, or indices of reality. Hence philosophy and science (the foundation of knowledge), while expected to become achievements in objectivity, actually become anthropomorphic. It would surprise no one to say a hammer cannot fly. Yet, an equally true statement about knowledge, namely, that reason cannot make "truth" available, causes excitement. The purpose here is not to discredit an honored tradition, if this were possible, but to state that a hammer cannot fly, hoping the business of flying will be attended to by airplanes while hammers perform the job they were made for.

Poetry—A Liberating Power

Poetry has, from antiquity to the present, been a source of examples of the liberating power of ignorance. Frankly devoted to the lyric, with its overtones of irrationality, poets

[2]Frederic Spiegelberg, *The Religion of No Religion*, Second Edition. (Stanford, California: J. L. Delkin, 1953) p. 27.

have sung their songs oblivious to the arguments of philosophy or the propositions of science. Their apparent frivolousness, their subjectivity, has caused a gap to separate them from the disciplined mind of science and philosophy. Their work, frequently condemned on the basis of its irrelevance to the life of reason, has, however, been hailed by Archibald MacLeish[3] as the proper channel for reaching the goal that science and philosophy have sought but never found. "We have lost our concern with ends because we have lost our touch with reality, and we have lost our touch with reality because we are estranged from the means to reality which is the poem—the work of art." If this is true the irrational, with its counterpart, ignorance, puts us in closer touch with wisdom than does knowledge. How ironic that the treasure of treasures—the meaning of existence—a gift that has not been sought or cared for by the poet, is placed in his hands.

The poetic, lightly touching upon stones, trees, and shadows, is devoid of illusions. Without explanations or footnotes, it speaks directly about the concrete. Because poets do not entertain illusions, they do not become disillusioned. Because they make no claim to metaphysical or scientific pretensions but instead invite direct participation in life, they cannot, properly speaking, be called contributors to knowledge. No wonder Plato referred to these free souls as "madmen." And, no wonder spokesmen for the tradition (spoken of as "our cultural heritage") established by Plato, have found poetic statements disturbing. Poets, along with the naive-wise, unlettered persons referred to previously, put reason and knowledge within the context of the human—avoiding the illusion that man can be explained, and in turn, that he can explain reality. The poets have chosen to ignore science and philosophy, devoting their attention to textures and tastes. Here indeed is ignorance on a big scale—an ignorance of sublime dimensions, which frees the poet from making his bow to the academic, thus allowing him to sing. And this type of ignorance makes it unnecessary for him to seek "truth"; why should he look for something he already possesses?

[3]Archibald MacLeish, "Why Do We Teach Poetry?" *The Atlantic* 197: 48-53; March 1956.

Science and Objectivity

Until recently, science has not vindicated the principle, "Ignorance leads to 'truth.' " Historical commitments to hard, straight thinking have made scientists opponents of all forms of subjectivity, including ignorance. Convinced that nature would reveal its secrets only when probed by vigorous intellectual scrutiny, scientists have advanced a thesis established by Greek philosophy—have sought "truth" by way of reason. Substituting empirical methods for speculative, they took up a search which orginally belonged to metaphysics. And, though their additions to knowledge came through the admittedly precarious means of experimentation, scientists considered their conclusions as little "truths."

From the beginning, science has been plagued by a problem. The further scientists went in constructing theories (the very heart of science), the less their formulations resembled reality.[4] As if this were not troublesome enough, still another dilemma arose. Scientists considered poetry inadequate, floundering as it does in immediate experience. They would even say, in a technical sense, that the poet's unreasoned, emotive approach to his materials places him in the position of embracing ignorance. After such denouncements, scientists had a difficult time reconciling themselves to the recent discovery that the work of their most illustrious members suffered from poetic qualities. What they had taken to be objective, appears upon closer observation to be constructions of the human mind, and, alas, the human emotions!

Already, the first step in dissolving the "dilemma of science" has been taken. And this, oddly enough, was accomplished not by a more rigorous attack upon the problem of truth but by giving us the problem entirely. This way of dealing with the puzzle is as paradoxical as the paradox scientists originally confronted. If the hand of man cannot be removed from experimentation, it is one with reason to admit that the once-hoped-for pure objectivity must give way to a subjective-objectivity. Here is a spectacular example of the liberating power of ignorance.

[4]Donald Snygg, "Scientific Method in Psychology." *Journ. of Gen. Psych.* 52: 189-96; April 1955.

Reason was released to do its appropriate work only after scientists conceded that the intellect cannot be freed from poetic impulse. Science unties itself from a paradox by way of a paradox—advancing reason by admitting it is unreasonable. The result—science has been cut off from its roots in Greek philosophy. No longer does it undertake the metaphysical quest. Openly granting the subject matter of science emanates from the minds and hearts of men, modern scientists are now freed from the impossible task of explaining "truth."

It is only since the turn of the century, however, that scientists have fully admitted their inability to know "truth." A current definition by Conant[5] illustrates how contemporary scientists have given up what until recently was thought to be their foundation. "Science is an inter-connected series of concepts and conceptual schemes that have developed as a result of experimentation and observation and are fruitful for further experimentation and observation." Donald Snygg's[6] commentary on this definition gives emphasis to the point under discussion. "You will notice that this definition has nothing to say about the nature of reality and that it does not define science as the search for truth. The reason is that the physical scientist in pushing ahead in a search for reality has found himself dealing less and less with anything which seems to be real and dealing more and more with symbols and concepts which are not even supposed to stand for anything real. The models and conceptual schemes of modern science are purely devices for the purpose of reducing diverse phenomena to order in men's minds and any resemblance they may have to the real universe is purely coincidental."

Taking the first step in releasing science from its long-standing dilemma provides little satisfaction, for immediately another problem arises. What about "truth?" Can the scientist eliminate it from his work, merely by saying it is not there? Man as scientist can define science as he pleases, can select and build concepts which help him obtain degrees of objectivity, can strengthen method by recognizing the prevalence of subjectivity of all activities carried on by people. But can man as man erase the ontological? Can he completely abdicate his manhood by declaring, "Science has taught me that I no longer need to ask, 'What does all this mean?' " Can he, in the name of meeting the technical requirements of logic, refuse to heed the growlings of his large intestine? The answer to these questions is obvious. He may realize that science in its role as substitute for Greek philosophy has been found wanting. He may recognize the limitations of reason. Hence, in order to keep his house intact, he closes his door to fruitless investigations. But in doing this, does he really shut out the perennial cravings of the human heart? Don't these reappear in the form of the desire for economic security or the search for direction which the psychiatrists witness? Science has demonstrated the futility of finding answers to the question of existence through reason, but it has not, nor cannot keep men from asking the question, even if the particular man happens to be a scientist. If man is to be distinguished as man, he is "that being who asks the question of being."[7]

The Deficiencies of Reason

The negative route contemporary science has taken (exemplified in giving up pure objectivity) when thoroughly traveled leads back again to the ontological. Freedom from the burden of explanation makes possible the vigorous pursuit of the negative, which is necessary for knowing "truth." Yes, scientists, as such, no longer desire answers to metaphysical questions, but as human beings they cannot avoid interest in the meaning of existence. As long as they consciously sought, the mystery of mysteries became darker and darker. When the deficiencies of reason were recognized, the way to enlightenment was open. It is not strange that at first scientists did not understand the full significance of the negative way. Upon first discovering the limitations of reason,

[5]James B. Conant, *Science and Common Sense* (New Haven: Yale University Press, 1951) p. 25.
[6]Donald Snygg, *op cit.*

[7]Paul Tillich, *Biblical Religion and the Search for Ultimate Reality*. University of Virginia: James W. Richard Lectures in the Christian Religion, 1951-52. (Chicago: University of Chicago Press, 1955), p. 11.

they rallied to save what little objectivity remained in their logic. Grudgingly admitting subjectivity could not be eliminated, they, by definition, detached logic from its human shadow. As a system of interlocking concepts, science then could be protected from the hazards of primary experience. They soon realized, however, that the ontological bent of human beings will not let the scientist rest here. What is shut out of the philosophical and scientific exerts its strength in the psychological. What a curious twist: a problem that was for generations the exclusive property of scholars now becomes the subject matter of psychotherapy.

If they had not been so anxious to salvage objectivity, scientists would have realized the wisdom of following to its conclusion the skepticism that historically served them so well. All they had to do was extend unreservedly the inclination which caused them to lose their faith in reason and they would have arrived at the oasis.

It was previously said that some physical scientists have gone far enough in the negative direction to overtake enlightenment. What does this mean? They have done two things. First, they are beginning to penetrate the illusion that theory, even by definition, can stand independent of a conceiver. With this development, propositions are seen as reports based upon human perceptions. This may sound like laboring a point already clarified in Conant's definition. Placing propositions within the context of perception adds a significant idea. It is one thing to think of science as an interrelating series of concepts which only accidentally have a bearing upon reality and quite another to rest science upon perception. In the first instance the logic of science can be abstracted from its source in experience and treated as a self-contained system. So handled it remains exclusively in the hands of logicians (this would include mathematicians and some physicists). It may be pointed out in passing that the ensuing dualism which results from the separation of the logical from the ontological, if pushed to the limit, has dire consequences for the logician. What he has taken to be the definitive scientific and philosophic task will soon be done by machines. In the second instance, when perception (meaning direct contact with the crude stuff of immediate experience) serves as a foundation for science, the scientist recognizes his affiliation with the rest of the human race.

Given this connection ,regardless of how abstract symbols or theory may become, science does not lose its identification with people. Recognition of the integration between the datum of physical science and human beings makes it necessary to reappraise the scientific pursuit in relation to the yearnings close to the human heart. These desires are ontological. When the physical scientist, by way of the treacherous route outlined above, comes around to the place where generations ago he started, it looks as though he has been running fast to get nowhere. The technological by-products of science tell us this is not so. Because of these we may overlook a subtle but major change in modern thought. The turnabout in science points to a shifting in the ground of ontological study, namely, away from the objective realm of classical philosophy, to the field of psychology. Here indeed is a revolution of Copernican magnitude.

Scientists who travel far in the negative direction, going forward backward, being enlightened by ignoring, are involved in a development even more contrary than building upon a cornerstone of perception. If the phenomena of physical science are looked upon through the eyes of an individual scientist, instead of being analyzed by way of his symbols (logic), the observer will see an incomprehensible scene. What was once managed within the laws of mechanics, has become so diffuse and unstable that the descriptive term "meta-atomic" is appropriate. With objectivity long since departed, the physical scientist beholds his data in wonderment. He ask, "What does this mean?" With a vengeance he returns to the ontological. But there is a difference between this question and the traditional mataphysical one. Now he does not want or expect an answer. The question is a lyric exclamation. He is overpowered by existence. No longer caring for an explanation, but satisfied with the excitement the unknown can offer, he becomes a poet.

The Scientist-Poet

It was said the scientist through negation overtakes enlightenment. The suggestion, implied here, that he clings to a hopeless nihilism, must be corrected. Although the scientist-poet employes the ancient law of reversed effort—a form of negation—to free himself from the hold knowledge has upon him, it is a mistake to think the negative, as such, will take him to enlightenment. The via negativa, when pursued to the point where all cravings vanish (this would include the ontological as well as the conscious exercise of the negative itself) puts the scientist in the position of having Truth come to him. As long as he cares or does not care, an intruder stands between him and enlightenment. This intruder is his own ego.

The scientist-poet who exclaims, "What does this mean?" experiences life directly and fully. During this experience he neither cares nor does he not care. He just undergoes the experience—he lives. At this time he is one with reality. With the disappearance of his ego, Truth, which has always been so close that he was virtually stifled by its presence, can flow toward him. When he penetrates the supreme secret, words no longer serve as a means of description. Such terms as "high" or "low," "spiritual" or "profane," "truth" or "falsity" now have no meaning, for the experience he has is meaningless—having nothing to do with cognition or conception. The moral feelings which gave impact to such expressions left with his ego. Without his ego, without the basis for morality, what is left? Life itself—Truth.

Science, in its historic aspect, as long as it concentrated upon explaining reality, has been called many things. In the light of the foregoing analysis it stands as a monument commemorating human ostentation, human morality, an edifice painfully built from ego particles. With the advent of more and more science-poets, the didactic loses its grip upon science. This event is accompanied with the shattering of long-standing dualisms. No doubt the most conspicuous of these is the cleavage between mind and matter. Perhaps the most startling manifestation of the disappearance of this dualism results from the growing realization that science, as well as philosophy, as well as art, as well as religion, as well as hoeing in the garden, as well as eating a "hotdog," as well as washing one's hands, can provide one of the many avenues to Truth.

. . . In the June 1955 class, almost three-fourths of the women [graduates] took some courses in education. Most of these secured a teaching certificate and were teaching in the winter of 1955-56. Those who became teachers constituted 87 per cent of the graduates with elementary school certificates and 63 per cent of those with secondary school certificates. About one-tenth of the certificate holders accepted other jobs and a small proportion were unemployed, although some of these had arranged to teach during the following semester. About 4 per cent of the certificate holders were continuing their education and about 6 per cent were not in the labor market.

Over half of the certificate holders were certified to teach in elementary schools only; one-third were certified for secondary schools only; and about one-tenth held certificates for both types of schools.—U.S. Department of Labor, Women's Bureau, in cooperation with the National Vocational Guidance Association, Women's Section, *Employment After College: Report on Women Graduates, Class of 1955* (Washington, D. C.: U.S. Government Printing Office, 1956).

Browsing Through the Bookshelves

WILBUR A. YAUCH

Reading

Guy L. Bond and Miles A. Tinker, *Reading Difficulties: Their Diagnosis and Correction* (New York: Appleton-Century-Crofts, Inc., 1957) 486 p. $5.25.

These authors have given us a type of book which is constantly in demand by reading teachers everywhere. There are a great many books on the market which give concern to general reading methods, but far fewer concerned with specific reading difficulties. Many pros and cons have been given for the various proposals for teaching beginning reading. But while these topics have been prominent in textbooks and at conferences, the classroom teacher also wants to know about the many causes of reading difficulties and what she can do about them. Why have certain children failed to learn to read? Is the cause a single cause or are there multiple causes? One of the important parts of this book deals with physical deficiencies as causes, as well as emotional, intellectual, and educational causes.

The part of the book which treats of diagnosis begins by presenting certain general principles of diagnosis, followed by an analysis of reading difficulties. This second part of the book should be especially helpful to teachers, as one of the most frequent questions which reading teachers ask concerns making a diagnosis of these difficulties. This concern is evidenced by the great demand for diagnostic tests.

Another of the important contributions of this text is the discussion of the treatment of reading difficulties following the making of a diagnosis. The authors present important basic principles of remediation and include a discussion of comprehension and word-recognition techniques. This section seems to be particularly well done.

Those who are seeking to improve their own skills in working with cases involving reading difficulty will find the book most helpful. The authors have conceived of this treatment as appropriate in helping classroom teachers, remedial workers and clinicians. It is their intent to give specific help in diagnosing and correcting reading difficulties.

Eugene Grant
Department of Education
Northern Illinois State College
DeKalb, Illinois

Social Studies

Earl S. Johnson, *Theory and Practice of the Social Studies* (New York: Macmillan Company, 1956) xviii + 476 p.

One of the most profitable experiences in learning "how to write" was a little book that inadvertently came to my notice as a college freshman. The title of the book, *How to Sell a Manuscript*, had caught my eye, for I had ambitions. Needless to say, I never sold any of those early scribblings, but I did learn much about writing. I am tempted to place Professor Johnson's excellent book in this category of rare works that, while explaining *how* to do, are not forgetful that one must also know *what* to do.

In fact, I am almost tempted to say that Johnson so effectively breaks down the barrier between "method" and "content" that the battleground becomes a playground where the former antagonists experience a joint thrill in the acquisition of new feelings, new ideas. As Johnson himself puts it so eloquently in his introduction, "Without substantive knowledge, we have no reliable warrant for what we know, and without an

acquaintance with the method of inquiry and social theory we have no guide for teaching except routine born only of trial and error."

In a world where principles of social and political morality have been debauched by a generation of experience with Fascism and Communism, it is understandable that we should again hear of the necessity for "moral teaching" in our schools. These requests are usually made in perfect good faith. The difficulty is that what is held as "moral" by one man's experience may be considered "immoral" by another. In the midst of such confusion unscrupulous fishermen often make an appearance. For social scientists and teachers of social science and education this is a problem which at the present time transcends all others. For, if teaching in the social studies is to aspire to any degree of effectiveness the end result must include some understanding as to how people come to hold such differing views. With this understanding there is reasonable hope for tolerance—and progress toward a better world. Here again the work of Johnson's skillful pen is felt throughout the book as it traces out the reality and possible reconciliation of conflict in social values.

The basic theme of the book might be labelled "The Nature of Thought in Relation to Action." Its evidence is indicated from the first chapter, "The Democratic Character," through such others as (IV) "Indoctrination: Avoidable and Unavoidable," (X) "Attitudes, How We Get and Change Them," (XI) "Perception, Valuation and Conduct," (XIX) "The Nature and Purpose of Discussion," and (XX) "Teaching Skills and Understandings That Persist." But let Johnson himself speak (p. 200): "The problem is not that men should act: they *do* act. The problem is whether they are to act from sheer impulse unaided by reason or whether they will take counsel with their impulses by the use of reason. Warm emotion and cool intelligence can work together and we must teach our students how they may cooperate."

The book is a distillation of a lifetime of vast learning and experience. What makes this all the more impressive is the modesty of presentation, and the generosity with which credit is given for the words and ideas of others. Indeed, the citations in the book might easily be used as a guide for professional development in the social sciences.

Anyone who is aware of the innumerable special problems and difficulties confronted by individual teachers and schools in the preparation of teachers would be quite mad to suggest that there is one book, a universal text whose Procrustean qualities fit all needs. If there were such a book, Johnson's would be it. However, as a reviewer, I should be guilty of gross omission if I did not insist that, whether or not it is used as a text, no school should fail to find a prominent niche for this book to which teachers as well as students may turn with great rewards both of profit and pleasure.

—Renzo Bianchi, Chairman
Department of Economics
Carleton College
Northfield, Minnesota

Teacher Education

Merle L. Borrowman, *The Liberal and Technical in Teacher Education* (New York: Bureau of Publications, Teachers College, Columbia University, 1956) xvi + 247 p. $5.00.

This absorbing and informative study traces the evolution of teacher education in the United States. Subtitled "A Historical Survey of American Thought," it is concerned principally with the fundamental issues which have repeatedly thwarted educational theorists in their efforts to reach an agreement on the intellectual foundations of the teaching profession. It is with this hoped-for agreement in mind, with the subsequent improvement in teacher preparation, that the author suggests the use of the historical perspective as a balancing factor in resolving the "clash of fad with tradition."

Closely documented, the survey opens with a discussion of major problem areas in the contemporary education of elementary and secondary school teachers. These problem areas, centered in the proposed relationships of the general to the professional sequence and the liberal to the technical function of teacher education, reflect the need for an effective compromise in the formulated objectives of the teachers college and the liberal arts college.

With the stated relationships serving as the basis, topical framework, the author un-

folds the historical analysis of teacher education in four chronological chapters. In the first period (prior to 1865), characterized by a gradual recognition of the importance of a formal program of teacher preparation, the general acceptance of specialized teacher education paralleled the establishment of the tax-supported common school. In the second period (1865-95) professional education for teachers was introduced in the curriculum of normal schools, colleges and universities. During the third period (1895-1930) with its tremendous expansion in public education, professional education was dominated by the revolutionary theories of Herbart, Parker, Dewey, Thorndike, and Rice. The final period (1930-52) was marked by a variety of experimental programs in teacher education, with courses in educational foundations attracting particular attention of those searching for a program to prepare teachers who are liberally and technically competent.

Although the author covers comprehensively and carefully the essential phases in the development of desirable balance in the education of teachers, he fails to show the full impact of historical forces upon the changing concepts of teacher education. The added depth would have cast the intepretative material in a more convincing light.

The reviewer feels, however, that despite the limitation in scope, the study represents a significant contribution to the greater understanding of teacher education, a persistent and an increasingly urgent problem in American education. Many readers will value the wealth of new material brought together in this volume. This is a thoroughly documented exposition of the main currents in American thought relating to the major issues in teacher education.

—John M. Beck, Chairman
Department of Education
Chicago Teachers College

Charles H. Wilson, *A Teacher Is A Person* (New York: Henry Holt and Company, 1956) 285 p. $3.75.

It is difficult for a reviewer to be objective about a book when the author is personally known to him. He constantly reads into the text his own evaluations of the author as a person. This is particularly true when the subject under discussion is as controversial and "off-beat" as Chuck Wilson's delightful and humorous autobiographical account of some of his ideas about school teaching. Knowing Dr. Wilson personally, and believing strongly in his approach to teaching as a human and exciting adventure, this reviewer's appreciation of what he has attempted to do may or may not be shared by others.

It can be stated with some certainty that there is nothing like this book in the library. Justification of this statement may be found in the fact that librarians have been puzzled about how to catalog it. It is variously assigned to the sections on biography, education, current events, and humor! This confusion is due to Dr. Wilson's attempt to do three things in the same volume: to give a rambling and relatively disjointed account of his educational adventures, to present some of his own unique conceptions of educational theory, and to direct a polemic against some of education's more outspoken and unnecessarily ungentlemanly critics. Throughout, he skillfully employs a form of English humor—understatement—and goes out of his way to impress the reader with the fact that he was "Peck's Bad Boy." Anyone who knows Dr. Wilson personally and professionally as a person who administers a school system with skill and a high quality of responsible educational leadership must come to the conclusion that either he has "grown up" remarkably well, or the whole thing is a great big sham and "leg-pulling" stunt.

In his attempt to cover too much ground it is fair to accuse Dr. Wilson of not having done justice to any of his three objectives. It is difficult to obtain a clear picture of his educational experiences, since some of the more recent ones relating to his administrative career are disposed of too summarily. In his attempts to be humorous (in which he succeeds admirably) it is often difficult to tell when he is serious and when he is having fun with the critics. While he makes some telling points against our more vocal critics, he assumes too much information about them is possessed by the reader. Occasional references to Bestor, Lynd, Smith, Whitman, et al, without filling in with more specific discus-

sion of their points of view is likely to leave the reader with a confused notion as to what all the shouting is about.

It is certain that the book will be read by a wide variety of people with a considerable difference of opinion as to its worth. It should be required reading for all teachers and administrators, not only for pure enjoyment, but as a means of making a healthy correction in their conceptions of how teachers should behave. It is hoped that our critics will read it in order to realize that school teachers are unique individuals who defy classification, but one wonders if they won't merely put Dr. Wilson down as an extreme exception and go right on holding stubbornly to their preconceptions of what teachers and administrators are like.

—Wilbur A. Yauch, Head
Department of Education
Northern Illinois State College
DeKalb, Illinois

Leonard S. Kenworthy, *Introducing Children to the World* (New York: Harper and Brothers, 1956) 268 p. $3.75.

This is a practical guide for the elementary and junior high school teacher for introducing children to the wide, wide world in which they live, without unnaturally divorcing them from the local community and the more immediate environment of experience. Ample illustrations are given for both the materials and methods to be used in achieving this purpose.

The author, who spent several years in the section on Education for International Understanding of UNESCO, takes a vigorous position that "the purpose of the schools in this country has always been to help children and youth use the past in order to live effectively in the present and future." (p. 9.) He frankly proposes throughout the book that the schools educate for world citizenship, since, in his mind, the future demands it.

The book does not lack plentiful illustrations and suggestions for doing this. More than 50 pages in the appendix are devoted to a bibliography of materials boys and girls may use in their study of the problems and promises of the world at large.

Dr. Kenworthy emphasizes that the process by which children become world-minded is through an early investigation of local conditions and situations which often contribute to the development of deeply ingrained prejudices. Differences in cultures and folkways may easily be discovered in one's own local community, which is the starting point in becoming tolerant and unbiased about peoples in other parts of the world.

The major portion of the book is devoted to a presentation and discussion of concepts and knowledge which may be presented at the various developmental levels—primary grades, intermediate grades, and junior high school years.

This is a worthy addition to the all-too-few books on intercultural education, pioneered by such volumes as Vickery and Cole's *Intercultural Education in American Schools* (Harper, 1943), and Taba, Brady, and Robinson's *Intergroup Education in Public Schools* (American Council on Education, 1952). It is obvious that the concepts Dr. Kenworthy champions will have some difficulty in being accepted in certain states which prohibit teaching about United Nations and UNESCO, but his wholesome respect for the importance of grounding these concepts in one's local culture may be the saving grace.

—Wilbur A. Yauch.

Books Received

1. American Council on Education, *Expanding Resources for College Teaching.* Report of the Conference on College Teaching Sponsored by the ACE in Washington, D. C., January 19-20, 1956. Edited by Charles G. Dobbins. (Washington, D. C.: American Council on Education, 1956) 140 p. $1.50.
2. American Association of School Administrators, National Education Association, *The Superintendent as Instructional Leader,* 35th Yearbook (Washington, D. C.: The Association, 1957) 484 p. $5.00.
3. Beck, Robert N., *The Meaning of Americanism* (New York: Philosophical Library, 1956) 180 p. $4.75.

4. Bruce, William C., ed., *Mr. Citizen Joins the School Team* (Milwaukee: Bruce Publishing Company, 1956) 64 p. $1.00. (A collection of articles selected from the *American School Board Journal.)*
5. Davies, Rupert E., ed., *An Approach to Christian Education* (New York: Philosophical Library, 1956) 159 p. $4.75.
6. Davis, Evan T., and Jones, Goronwy J., *United Nations for the Classroom* (London: Routledge and Kegan Paul, 1956) 172 p. $2.00.
7. Dean, Vera Micheles, *The American Student and the Non-Western World* (Cambridge, Massachusetts: Harvard University Press, 1956) 28 p. $1.50.
8. Edelston, H., *Problems of Adolescents* (New York: Philosophical Library, 1956) 174 p. $4.75.
9. Eisenson, Jon, and Ogilvie, Mardel, *Speech Correction in the Schools* (New York: The Macmillan Company, 1957) 294 p. $4.25.
10. Gibb, E. Glenadine, and Van Engen, Henry, *General Mental Functions Associated With Division* (Cedar Falls, Iowa: Iowa State Teachers College, 1956) 181 p.
11. Giles, Harry, *Educational and Human Motivation* (New York: Philosophical Library, 1957) 108 p. $3.00.
12. Houle, Cyril O., and Nelson, Charles A., *The University, The Citizen, and World Affairs* (Washington, D. C.: American Council on Education, 1956) 179 p. $3.00.
13. Hunter, Edith F., *The Questioning Child and Religion* (Boston: The Starr King Press, 1956) 209 p. $4.00.
14. McCarthy, Raymond G., *Teen-Agers and Alcohol: A Handbook for the Educator* (New Haven: Yale Center for Alcohol Studies, 1956) x + 188 p. $4.00.
15. Martin, William Oliver, *The Order and Integration of Knowledge* (Ann Arbor, Michigan: The University of Michigan Press, 1957) 355 p. $6.50.
16. Massie, Lillian, and others, eds. *The Major in English* (Little Rock: Arkansas Experiment in Teacher Education, 1956) 120 p.
17. Nathan, Beatrice, *Tales of a Teacher* (Chicago: Henry Regnery Company, 1956) 302 p. $4.00.
18. Richmond, W. Kenneth, *Education in the U. S. A.* (New York: Philosophical Library, 1956) 227 p. $4.50.
19. Russell, D. H., *Children's Thinking* (New York: Ginn and Company, 1956) 449 p. $5.50.
20. Schonell, F. Eleanor, *Educating Spastic Children* (New York: Philosophical Library, 1956) 242 p. $6.00.
21. Tibbitts, F. Lyman, *Streamline Your Study Habits* (Los Angeles: Mission Press, 1947) 6th printing, 1956. 74 p. $ .70.
22. Thompson, Helen M., *Swierl: A Plan for Better Reading* (New York: Vantage Press, Inc., 1957) 163 p. $3.50.
23. Valien, Bonita H., *The Saint Louis Story* (New York: Anti-Defamation League of B'nai B'rith, 1956) 72 p. $ .35.
24. Wills, Clarice and Stegemen, William H., *Living in the Primary Grades* and *Living in the Kindergarten* (Chicago: Follett Publishing Company, 1956) 416 p.; 374 p.

Concern over the three R's was expressed just as vocally 100 years ago as it is today. In 1857 an educational journal complained that "reading is worse taught than any other branch" and that "penmanship now-a-days is very inferior in point of neatness, clearness, and legibility to what was commonly seen twenty or thirty years ago." A meeting of the National Education Association in 1907 heard a speaker sum up pupil achievement this way: "We all know that children can't spell as well as they used to spell, that only one in a hundred can add and subtract with the facility of our fathers when they were boys. . ."

Texts for Teacher Education

EVALUATION IN MODERN EDUCATION

J. Wayne Wrightstone and Joseph Justman, Bureau of Educational Research, Board of Education of the City of New York
Irving Robbins, Queens College

This text goes beyond the mere description of tests and measurements to deal with practical methods of interpretation and evaluation.

HUMAN DEVELOPMENT AND LEARNING

Lester D. Crow and Alice Crow, Brooklyn College

This study of the child as a learner within his cultural environment is unified by the continuous application of mental hygiene principles.

BASIC PRINCIPLES OF STUDENT TEACHING

Harold P. Adams and Frank G. Dickey, University of Kentucky

The skills, competencies, and understanding embodied in this book are those which teachers at all levels must have to be effective in their teaching.

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Hollis L. Caswell, Teachers College, Columbia University
Arthur W. Foshay, Ohio State University

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COLLEGE DIVISION

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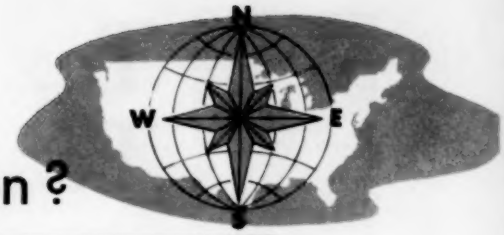
What's Happening in Teacher Education?



AT THE NATIONAL LEVEL

National Training Laboratories will conduct its Eleventh Annual Summer National Training Laboratory in Group Development at Gould Academy in Bethel, Maine. Research indicates that effective leadership in education depends on face-to-face working relations in small groups. The two three-week summer sessions are devoted to more effective development of human relations knowledge, insights, and research by professional and volunteer leaders. Dates are June 16-July 5 and July 14-August 2. One-hundred-fifty persons will be admitted to each of the sessions.

The laboratory is sponsored by the National Training Laboratories of the Division of Adult Education Service of the National Education Association, Washington, D. C. Its faculty represents both educational and applied fields from Massachusetts Institute of Technology, Columbia Teachers College, and the universities of Boston, Chicago, Delaware, Michigan State, Minnesota, New York, Ohio State, and Texas.

The purposes of this intensified training program are as follows: (1) to develop increased sensitivity to human relations situations; (2) to develop the ability to diagnose the causes of human relations problems; (3) to practice the problem-solving skills of an effective leader; (4) to study problems of intergroup relations and organizational conflict; and (5) to plan for effective work in the community. This year the laboratory will go more deeply into the whole problem of community leadership training and training for leadership in organizations, staff, committee, and discussion groups.

Science and Mathematics. The American Association of Colleges for Teacher Education and the American Association for the Advancement of Science has announced a three-year cooperative study designed to help solve the problem of shortages of well-qualified scientific personnel and to increase the supply of science and mathematics teachers to staff the nation's secondary schools.

The purposes of the joint research study of teacher education in science and mathematics would be (1) to develop better preservice and in-service teacher education programs in science and mathematics; (2) to increase the supply of well-qualified science and mathematics teachers; and (3) to establish closer, permanent working relationships between scientists and educators on college and university campuses, and through activities of professional organizations.

WESTERN STATES

Western Regional Conference. Teacher education, certification, and reciprocity were subjects considered by the fall 1956 Western Regional Conference of the Council of State Governments and Meetings of Regional Committees held at the La Fonda Hotel, Santa Fe, New Mexico. The conference accepted the following report of the Western Interstate Committee on Education:

"Certification of teachers is the means by

which a state seeks to assure professional competence by requiring that all teachers possess certain minimum qualifications.

A college degree based upon a four-year college program should be a basic, minimum qualification for certification. A teacher's basic preparation should include general education, development of teaching skills, and the mastery of subject matter. Continuing professional growth through additional schooling and satisfactory work experience should be required.

"During a period of teacher shortage, states should provide an orderly process by which former or potential teachers, who do not meet minimum standards, can progressively meet certification requirements. State departments of education and teacher education institutions should work out accelerated programs by which these individuals may obtain the necessary additional training.

"Certification requirements and teacher training programs should emphasize areas of study rather than completion of specific courses. This provides prospective teachers more latitude in their own training and gives colleges a greater opportunity to experiment in the development of training programs. Such emphasis also permits greater uniformity of standards, reducing one possible barrier to the movement of teachers among states.

"Standards for certification should facilitate entrance into the teaching profession of qualified persons with varying backgrounds. Lack of such flexibility may discourage a significant number of able people from entering the profession.

"The certification process is a compound of state, local and professional activities; its final products are state credentials. Its success requires coordination of state, local and professional activities.

"The present legislative practice of authorizing the state board or department of education to spell out the detailed requirements is sound. Boards and departments, in turn, should call on legislators and public groups for advice and assistance.

"The role of certification as a crucial part of a state's educational program requires recognition. Provision of a competent staff of adequate size to administer standards is essential to maintain the integrity of the standards and the program itself.

"Special requirements such as specific courses in local history, visual aids, etc., constitute potential barriers to the movement of teachers among the states. If they do not relate directly to basic professional competence they should be eliminated wherever possible.

"Local school boards assume basic responsibility for selection of teachers. Their policies and procedures, though, contribute to both the problems and the effectiveness of the state's accreditation agencies. School boards should be encouraged to develop whatever supplementary standards are needed to assure recruitment and retention of competent teachers. They should regard certification as setting minimum standards and not maximum goals.

"Accreditation of teacher training institutions influences the nature and effectiveness of a state's certification process. Close cooperation between educators and administrators is needed to guarantee consistent and high standards of teacher certification. Uniformity in accreditation standards can also facilitate interstate movement of teachers. Regional or national accreditation machinery can be a desirable, workable tool for strengthening and assisting professional standards and maintaining adequate safeguards for individual states.

"Other problems require continuing study by educators and public agencies so as to reduce possible barriers to free movement of teachers among the states. Their solutions will contribute to more uniform, but strengthened, certification policies among the states. The most important include problems of divergent teacher retirement provisions, continuing contract provisions, arbitrary age limitations and dissimilar credits for prior teaching experience.

"The certification process should be based on reasonably uniform, minimum standards and applied in a flexible manner. If standards are arbitrary or unnecessarily diverse—or if they are too rigidly applied—the certification process may be crippled and barriers erected to movement of teachers among the states."

J. Burton Vasche
(California)

Certification of Administrators. Several education administration staff members at the University of California are actively at work this year on a study of certification of educational administrators. It is an outgrowth of state studies undertaken in 1954 and a significant spring conference held at the University in 1955. The general working outline includes: (1) history of the origin and development of patterns and trends; (2) summary and analysis of state certification practices; (3) analysis of practices for other professions and in other countries; (4) recent studies, developments, and emerging concepts; and (5) conclusions and recommendations. The findings are to be reported at a Western States Conference this spring and made available to other states and organizations interested in improving their programs.

Edgar L. Morphet
(California)

ARKANSAS

Follow-Up of Fifth-Year Graduates. The state office has received up-to-date addresses from 99 of 126 graduates of the scholarship type fifth-year programs. Forty-two of the respondents are teaching in Arkansas, 26 are teaching outside the state, 7 are engaged in further study, 12 are in the military service, 12 are homemakers or are engaged in work other than teaching.

A follow-up study was made of students who participated in the Alternate Program in 1955-56. Thirty of the 33 students who registered for the program completed the year of teaching and achieved Arkansas certification. Twenty of the students completed work for the Master's degree in August, 1956. Twenty-seven of the 1955-56 alternate program classes are teaching this year (20 in Arkansas and 7 in other states).

The alternate fifth-year program is in its second year of operation, with 19 students enrolled. Participating in the program this year are 12 public schools, as follows: Bauxite, Camden, Carlisle, England, Hot Springs, Little Rock, Mabelvale, McNeil, Magnolia, North Little Rock, Star City, and Texarkana.

FLORIDA

Advisory Council. The Florida Legislature established a "Teacher Education Advisory Council in 1947 to aid in developing desirable standards and assist in the improvement of teacher and administrator education. The Council has 36 members including representatives from each teacher education institution and the State Department of Education, and at least an equal number of persons connected with the state public schools. Since the Council meets only twice a year much of its basic work is done through established committees: research, public relations, personnel, and junior colleges. Desirable findings of the council go to the State Superintendent of Public Instruction as recommendations.

At its fall meeting the Council considered items to strengthen teacher education and certification. One of these was a scholarship program. The Legislature in 1955 provided 1,050 annual four hundred-dollar scholarships to attract high school graduates to prepare for teaching. The scholarships are competitive and may be repaid either by one year of teaching service in Florida public schools for each year the scholarship was used or by payment of principal plus interest at the rate of five per cent. The Council has recommended that the 1957 Legislature consider increasing both the number of scholarships and their value to at least $500.

A spring meeting is to be held on April 29-May 3, 1957, at Daytona Beach to consider specialization requirements for the teaching field. Representatives of Arts and Science Schools from each of the colleges in Florida are invited to meet with the TEAC and representatives of the Teacher Education Schools and Colleges.

The research committee is sponsoring a study to determine the value of the Professional Education Programs in teacher education. It involves more than 3,000 beginning teachers employed in the Florida schools during the 1955-56 year (2,407 white, 696 Negro). "Beginning teacher" in this study means a teacher who taught for the first time in 1954-55 and/or 1955-56 school year. Of these 56.1 per cent were trained at Florida institutions and 43.9 per cent were trained in institutions outside the state. Three instruments were used to secure data for this

study: (1) teacher self-evaluation; (2) principals' evaluation of the teacher; (3) Minnesota Teacher Attitude Inventory. Data are to show: (1) number of teachers by colleges in Florida, and by state out of Florida; (2) list of counties served by teachers according to colleges and state and by state for out-of state trained teachers; (3) Rank III teachers (graduate) as compared with II (post graduate) according to (a) self evaluation, (b) principal's rating, (c) Minnesota Teacher Attitude Inventory, (d) the percentage frequency of answers to the open ended questions; (4) elementary teachers as compared to secondary teachers according to types of certification held: standard, provisional, temporary; (5) significance of length of internship; (6) comparisons between Florida and non-Florida trained teachers.

The Pupil-Personnel Committee of the Council has suggested certain basic minimum requirements for preparation of teachers specializing in the areas of visiting teacher, education of exceptional children, counseling and guidance, and school psychologist.

The State Classroom Teachers Association is incorporating into a four-by-nine inch multiple page booklet a statement on standards for the certification of teachers.

—*M. Mitchell Ferguson.*

IOWA

Intern Plan. A new "intern" program has been approved by the State Board of Public Instruction. Board action provides for a new certificate called the "professional commitment certificate" for elementary school teachers completing two years of a four-year college program. Only eight hours of education—three in procedure and five in teaching under supervision—from a total of 63 hours are required. Teachers having the "professional commitment certificates" are expected to continue their education. The certificates are renewable if the holder takes six semester hours of college work annually. College graduates may obtain these certificates by taking eight hours of teacher education; they become eligible for secondary as well as elementary schools.

The program is a step toward requirement of a college degree for all beginning teachers. The board proposes that after August 31, 1958, the "professional commitment certificate" be the only one available to new teachers without degrees. It also proposes that the two-year college programs of teacher education would not be approved after that date. Beginning with the 1960-61 school year the proposal requires that beginning teachers complete a four-year college course.

LOUISIANA

Accreditation. On October 8, 1956, the State Board of Education adopted the "Louisiana Standards for Accrediting Teacher Education Institutions," culminating three and one-half years of planning and work by the Louisiana Advisory Committee on Teacher Education and Certification.

The Committee created by Superintendent Shelby M. Jackson in February 1953, held its first meeting shortly thereafter with Dr. J. B. Wooley, Dean of Southeastern Louisiana College, committee chairman. Two kinds of problems were discussed—those dealing with teacher education and those dealing with teacher certification. Immediate attention was devoted to teacher education.

Dr. Clark L. Barrow, Director of Higher Education in the State Department of Education, on January 1, 1954, invited representatives of the teacher education institutions to participate in a self-evaluation program. All twenty institutions preparing teachers in the state accepted. They completed an evaluative "check list" and submitted it to the Office of Teacher Education and Certification for study by committees which visited individual institutions during the spring of 1954. The committees included members of the Advisory Committee. They received numerous suggestions which, with the "check lists," they evaluated. The Advisory Committee met August 2-4, 1954, at Louisiana State University and formulated tentative standards for approving teacher education institutions after examining materials supplied by other states and by T. M. Stinnett, Executive Secretary of the National TEPS Commission. An editing sub-committee prepared a working statement. The tentative standards were mailed to the college education departments for study.

The Advisory Committee met with representatives of all teacher education institutions of Southwestern Louisiana Institute

on January 14, 1955, to hear reactions and to receive recommendations.

Revision of the standards in terms of the recommendations followed, and after further study and additional changes by the Advisory Committee, they were presented to Superintendent Jackson for the consideration of the State Board of Education. The Board approved them on October 8, 1956.

The purpose of these standards is to make approval and supervision of institutions and programs for the education of teachers a cooperative undertaking between the respective colleges and the State Department of Education.

The six sections of the standards relate to practically every phase of teacher education institutions—purposes and objectives, organization and administration, college faculty and other instructional personnel, student personnel services, curricula, and facilities for instruction.

All institutions already approved for teacher education retain tentative approval. They will be given not more than three years from the date of adoption of the standards to become approved. Accreditation by the State Board of Education is necessary if a college or university is to continue as an institution for teacher preparation.

When a college or university applies for approval under the new standards, a reviewing committee will be appointed by the Supervisor of Teacher Education and Certification to review the institution's self-evalution schedules and to visit and evaluate the teacher education program. The committee will consist of five members, four to be selected by the Supervisor of Teacher Education and Certification, who will serve as chairman of each committee. The State Superintendent will use the report of each visiting committee to recommend appropriate action by the Louisiana State Board of Education. Already several colleges have made application for approval under the new standards.

—James Sylvest.

MICHIGAN

New Subcommittee on Code Revision. The State Board of Education, on recommendation of the Advisory Committee on Teacher Education and Certification, has appointed a subcommittee on Code Revision, consisting of 13 persons.

The subcommittee is authorized to (1) discuss pertinent issues regarding requirements for a teacher certification code; (2) study present requirements in the Teacher Certification Code of Michigan, the requirements of other states, proposals for the improvement of the present code, and procedures for the implementation of an improved teacher certification code; (3) recommend to the State Advisory Committee on Teacher Education and Certification specific provisions for the improvement of the Teacher Certification Code of Michigan.

In pursuit of these objectives, the subcommittee is authorized to request suggestions from interested individuals and groups, to consult widely concerning issues raised in the course of its deliberations, and to explore reactions to specific recommendations for revision of the Code which it may be considering. The subcommittee is requested to consult periodically with the Advisory Committee on Teacher Education and Certification during the progress of its studies and to make reports of its activities through the Advisory Committee to the State Board of Education.

Copies of the present State Certification Code are being prepared for distribution and may be obtained from the Division of Higher Education and Certification, State Department of Public Instruction, Lansing.

The subcommittee wishes to receive from all interested individuals or groups their suggestions concerning ways in which the preparation of teachers may be improved, and proposals for modifications in the Code which are implied by these suggestions. All communications should be addressed to the chairman of the subcommittee on Code Revision, Dean Charles E. Odegaard, University of Michigan, Ann Arbor.

—Eugene Richardson

OKLAHOMA

Certification. A State action committee has been set up with one member responsible for leadership in revising the self-evaluative guide used in appraisal of all subject matter field teacher certificates. The objective is to develop a guide suitable for use in evaluating each specific certificate program.

Ninety-eight per cent of all teachers in the

public schools of Oklahoma in 1956 held a Bachelor's or higher degree from a recognized four-year college or university.

The minimum semester hour requirement for temporary and provisional certificates was raised from 118 hours to 124 hours.

FTA and SNEA. Renewed emphasis and greater stimulus has been given to FTA and SNEA work in Oklahoma by the state teachers association and the Commission on Teacher Education and Certification. The result has been gratifying in terms of new clubs and chapters organized and increased membership. Southwestern State College at Weatherford has an active membership of 312.

R. B. Johnson.

WASHINGTON

Supply-Demand. Although Washington's number of beginning teachers is increasing, this state continues to attract a large group of teachers from other states. It is apparent that a competitive salary relationship with industry on a career basis and with teacher salaries in other states, especially California and Oregon, is essential to the building and maintenance of an adequate staff of professionally prepared teachers. It is clear also that professional concern for the recruitment of able youth to teaching and for the orientation and guidance of beginning teachers is most necessary to the building of an adequate professional staff.

Each year Washington needs more than 3,000 new teachers (there are 3,148 new teachers this school year) to meet the demand caused by growth in school enrollment and by the loss of teachers. The sources of new teachers are (1) beginning teachers from Washington's institutions of higher learning, (2) former Washington teachers who return to teaching, and (3) teachers from out-of-state. In recent years the supply of new teachers has come from each of these sources in approximately equal numbers.

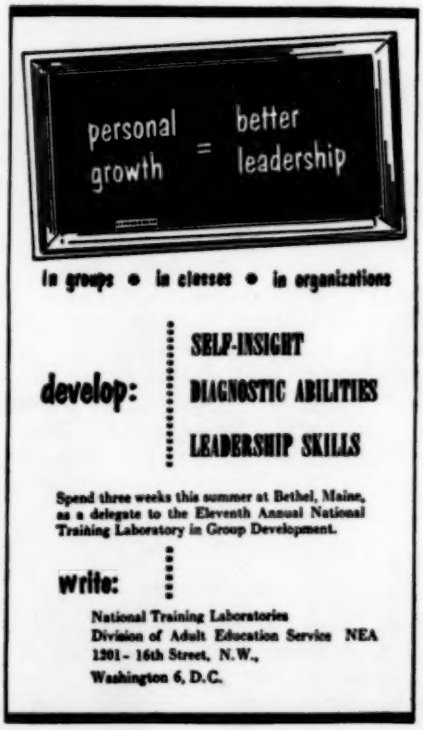
This year the number of certificated personnel has increased by 420 to a total of 22,592. The number holding emergency certificates as of November 1 was 1,574. A year ago the number holding emergency certificates was 1,449.

More than 10 per cent (about 2,200) of Washington's 1955-56 teaching staff are not teaching in the state this year. Nearly 600 of this group left Washington to teach in other states. Approximately 250 teachers, mostly men, secured other employment, and nearly 800 women left teaching for homemaking. Further schooling, military service, and retirement account for the remainder of this group.

The state has obtained, as of November 1, 888 teachers from out-of-state for the current school year. On the same date a year ago the number of new teachers from out-of-state was 873; by the end of the school year this number grew to 1,162.

The supply of beginning teachers is increasing. This year's figure exceeds last year by more than 200. One of every four persons granted a Bachelor's degree also earned a teacher's certificate. College estimates indicate there will be at least 2,000 teacher education graduates in 1957, approximately 400 more than this year. Better than 75 per cent of teacher education graduates enter teaching immediately upon graduation. Of this group about 11 per cent teach in other states.

—Wendell C. Allen.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